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Deaf Ear

ON JUNE 10, just a few days ago, the Civil Aeronautics Authority denied a certificate of convenience and necessity to Airline Feeder System, Inc., for operations between Newark and Westfield, Mass. The airline had applied for a certificate under the so-called "grandfather clause," i. e., along with all other lines in operation during the period just prior to passage of the Civil Aeronautics Act of 1938.

We do not believe that the CAA has much cause to be proud of its record in handling this case—for two reasons.

In the first place the Authority has taken nine months to come to the conclusion that this small line should be denied a certificate. Can it be that this application was so complicated that it required so much time to reach a decision when the record of the hearing requires only an hour and a half to read? Can the Authority have any understanding of what it means to be in private business and spend \$50,000 "hanging on" until a decision is rendered and then to be given a negative answer?

Whether the answer was to be yes or no, this much is certain: that there must have been some doubts of the certificate being issued in the beginning and hence there was every reason to decide on border-line cases as expeditiously as possible. The hearing was held months ago, the examiner made a favorable report (recommending a certificate) months ago and if the Authority could find it possible to move heaven and earth for large operators (such as speeding Pan American Airways into the trans-Atlantic service) why could it

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42-Passenger 4-Engined DC-4 Wows Public in Eastern Debut

THACH RESIGNS AS PAN AM. EXECUTIVE

Remains as Special Counsel But Retires
From Active Duties; One of
Line's Founders

Robert G. Thach, one of the founders of Pan American Airways and one of the best known and best informed men in air transportation, has retired from executive responsibilities in Pan American and has returned to private law practice, it has been announced. He will continue to serve the Pan American System as special counsel.

Thach entered aviation as a flying officer in the AEF during the World War, serving with distinction for years. He was decorated by General Pershing and by the French government and ended up his Army service as a major in the Air Corps. He then entered general law practice in New York City, serving as attorney for the Curtiss Aeroplane and Motor Co. and as general counsel for the Aeronautical Chamber of Commerce at its formation and during its early years.

Later, with Juan Trippe, president of Pan American Airways, and other associates, Thach helped organize and

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Resigns



Robert Gordon Thach
Who has retired from executive responsibilities in Pan American Airways.

Commercial Airliner is Smash Hit; Opens New Transport Era

THE 42-passenger four-engined Douglas DC-4, built by the Douglas Aircraft Co., of Santa Monica, Cal., with the cooperation and assistance of five major airlines, made its maiden flight to the east coast late in May and early in June in one of the most amazing tours of its kind ever accorded a commercial airliner.

Probably never before has a purely commercial airplane captured the volume of public curiosity and enthusiasm evidenced by the hundreds of thousands of persons who turned out at Oakland, Salt Lake City, Cheyenne, Denver, Omaha, Chicago, Cleveland, New York and Washington, to see the huge airliner which dwarfed all other aircraft on the airports and which seemed to baffle the lay public as being too large to be real.

Although the Boeing 314 clippers purchased by Pan American Airways are larger and more sensational in relative aeronautical development, it was the DC-4 in its stops at cities across the country—inland where large aircraft are still a novelty and where air transportation means more—that caught the public fancy and was viewed by more people in perspective of size.

So great was the public appeal at several stops along the transcontinental route that cordons of police had to be called out to handle traffic jams and restrain crowds bent on getting a first-hand look at the largest passenger landplane ever built in this country. As a major development of air transportation and the science of aeronautics, the DC-4 and its maiden flight eastward can go down in the annals of aviation history if for no other reason than the public reception it received.

There is no question in the minds of many observers that regardless of whether any or many orders are placed by airlines for the DC-4, that the prototype ship itself represents to the lay public a new era of transportation in a way that no previous commercial airplane has ever done.

Two reactions of the public were especially noticeable. In movie theaters when newsreels of the interior were shown—with 42 seats filled—the audiences gasped audibly in wonderment. This reaction was noted consistently in Washington, D. C. where theater audiences are the most un-

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Dreams of 20 Years Realized: First Atlantic Passenger Flight June 28

Spanning the Atlantic with commercial flights carrying passengers, express and mail, will become a reality June 28 when Pan American Airways will dispatch its first passenger-carrying clipper to Marseilles, France, via the Azores and Lisbon.

Initial schedules for the air passenger service will provide a service of 22 hours elapsed time to Lisbon, the first European port to call. For the time being, an overnight stop will be made at Lisbon before proceeding to France. Out of more than 700 persons who have made reservations for the first flights, about 35 will be selected to make the maiden air voyage. One-way fare will be \$375.

Pan American has also announced that direct air mail service will be inaugurated June 24 to Great Britain and the Irish Free State via Canada and Newfoundland, this being the first 1939 flight over the northern route.

With unexpected swiftness the preparations for passenger service have moved forward. On May 20 the first mail-carrying flight began from New York and the fourth flight to Marseilles began June 10. Three Boeing 314 clippers are now in service on the Atlantic—the Yankee Clipper, the Atlantic Clipper, and PAA-21, as yet unnamed. Trans-Atlantic flights will continue with clock-like regularity during the summer.

Government officials, including members of the Civil Aeronautics Authority, will be on board the PAA-21 when it takes off June 24 via the northern route.

The June 28th trip culminates ten years of plans, studies and surveys by Pan American, of which two years of operations between New York and Bermuda have been an important phase. The passenger fare of \$375 one way and \$675 round-trip compares favorably

(Turn to page 4, col. 4)

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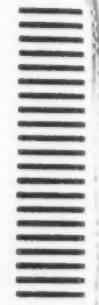
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Sarabia Killed in Washington Accident

Francisco Sarabia, known as the "Lindbergh of Mexico" and owner of the largest airline in that country, was killed June 7 at Washington, D. C. shortly after taking off from Bolling Field on a projected non-stop flight to Mexico in his Gee Bee special racing plane. Aviation and government officials mourned his loss because Sarabia had done much to aid relations between the U. S. and Mexico. On May 25 he broke the non-stop record between Mexico City and New York by flying the 2,350 miles in 10 hours and 48 minutes.

Only the day before the accident Sarabia had been feted by industry and government officials at a luncheon sponsored jointly by the Aeronautical Chamber of Commerce and the National Aeronautic Association. Later he was honored at a reception given by the Mexican Embassy.

Sarabia was flying what was said to be the last Gee Bee special existent. It was known for its small wing area and was powered by a 650-hp. Pratt & Whitney Hornet motor. It was built at Springfield, Mass., by the Granville Brothers and this particular plane had been entered in the London-Melbourne race but did not finish. It also failed to finish in a recent Bendix Trophy race. Sarabia took off from Mexico City at 7,400 feet altitude with a wing loading of 49.7 lbs. per square foot and landed downwind at Floyd Bennett Field with only one gallon of fuel remaining. The ship was heavily loaded when it took off at Bolling Field.

Although not well known in the U. S., Sarabia operated an important airline net work in Mexico, carrying 1,000,000 tons of chicle a year out of Yucatan. He had purchased about 37 airplanes from Charles Babb, well known west coast airplane dealer, and was recognized as Mexico's best pilot and an expert business man. He was the only pilot the President of Mexico would fly with and had about 12,000 hours to his credit. He had established a number of plane records, the only Latin American pilot to achieve such recognition.

Degree for Capt. Gray

Detroit, June 6—The honorary degree of Master of Engineering was conferred on Capt. Harold E. Gray by the University of Detroit at the 59th annual commencement exercises today in recognition of his work in survey flights made by Pan American Airways.

Dates Set for Maneuvers

Jan. 5-6-7 are the dates which have been set for the annual All-American Air Maneuvers at Miami, and it has been revealed that the \$3,500 Macfadden trophy race from New York will be held for the second year. It is believed Miami's \$2,000,000 airport, now under construction, will be in shape for the event.

Wright in DC-4

Orville Wright made his first flight in 10 years on June 9 when he was a passenger in the Douglas DC-4 42-passenger transport at Wright Field, Dayton, O. Donald W. Douglas, president of Douglas Aircraft Co., had sent the following telegram to Wright: "Some 30 years ago I traveled to Ft. Myer, Va., to witness a test from which everything in aviation has grown. While we cannot reproduce the thrill and significance of that first flight of the Wright brothers, I thought you would be interested to see in the DC-4 how far aviation has progressed from your great beginning." The Ft. Myer flight was made Sept. 9, 1908, in a machine built to demonstrate to the Army.

Calendar

- June 15—Air Transport Association. Meeting of Purchasing Committee, Los Angeles.
- June 15—Southwestern Division, National Association of Airport Executives, Oklahoma City.
- June 17-19—Carolina Aero Club's Aircade to NY World's Fair.
- June 18—All-West Virginia Air Meet, Wertz Field, near Dunbar.
- June 18-19—Florida Aviation Association Convention, West Palm Beach.
- June 19—Institute of the Aeronautical Sciences session of American Association for the Advancement of Science, Milwaukee.
- June 20-28—Florida Air Tour of NY World's Fair, leaving West Palm Beach.
- June 21-24—20th Convention, U. S. Junior Chamber of Commerce, Tulsa.
- June 22-25—2nd Annual New England Air Tour.
- June 24-July 9—10th Annual National Soaring Contest, Elmira, N. Y.
- June 25—2nd Amateur Air Show of Chicago, Curtiss Field.
- June 30-July 1—Institute of the Aeronautical Sciences meeting, Elmira, N. Y.
- July 4—Airport Dedication, Madison Wis.
- July 5-9—Treasure State Jubilee Air Show, Butte, Mont.
- July 8-23—2d International Aeronautical Salon, Brussels, Belgium.
- July 10—American Society of Mechanical Engineers, Popular Meeting on Trans-Oceanic Flying, Golden Gate Exposition, San Francisco.
- July 15—Annual Summer Cruise, Sportsman Pilots Association, from Wings Field, Ambler, Pa., to St. Jovite, Canada.
- July 16-23—Royal National Aeronautical Association Meet, Rimini, Italy.
- July 17-23—Cup of King Peter II of Yugoslavia, Fairley Airport, near London, England.
- July 23—Black Hills Aero Club Air Show, Spearfish, S. D.
- July 29—30th Anniversary of Army Aviation.
- Aug. 19—National Aviation Day.
- Aug. 20-21—Annual Air Show, Sheldon Aeronautics Club, Sheldon, Ia.
- Aug. 27-Sept. 5—American Open Soaring Meet, Frankford, Mich.
- Sept. 2—King's Cup Race and Wakefield Trophy Race, Birmingham, England.
- Sept. 2-4—National Air Races, Cleveland.
- Sept. 3—Gordon Bennett Balloon Race, Poland.
- Sept. 4—Aero Club of the Republic of Poland International Competition for Gordon Bennett Cup, Warsaw.
- Sept. 4-5—ASME & Inst. Mech. Eng. of Great Britain, Meeting on Mechanical Problems of Modern Transport, New York.
- Sept. 11-15—International Congress of the Aeronautical Sciences, I. Ae. S., Columbia University, New York.
- Sept. 11-24—Air Progress, Sponsored by NAA.
- Sept. 13-15—International Air Traffic Association Meeting, New York.
- Sept. 15—I. Ae. S., Dinner to Delegates to International Congress, New York.
- Sept. 16—International Aviation Day, New York World's Fair.
- Sept. 28-29—Western Aviation Conference, Fresno, Cal. (Tentative).
- Oct. 1—Deutsch Cup Race (speed), Etamps, France.
- Oct. 2-17—3d International Aeronautical Show, Milan, Italy.
- Oct. 5-7—SAE National Aircraft Production Meeting, Los Angeles.
- Oct. 16-20—National Safety Congress and Exposition, Atlantic City.
- Nov. 3-7—Annual Convention, Aeronautical Medical Association, Hollywood-by-the-sea, Florida.
- Dec. 7-8—Annual Meeting, Kansas State Aviation Association, Wichita.
- Dec. 16—I. Ae. S. Wright Brothers Lecture, New York.
- Dec. 27-Jan. 2—AAAS Winter Meeting, Columbus, O.
- Jan. 5-6-7—All-American Air Maneuvers, Miami.
- Apr. 26-28 (1940)—Air Congress of America, Southwest Division, Tulsa.

Port Dedication Set

Martinsburg, W. Va.—July 4 has been tentatively set as the opening and celebration date for Martinsburg's new airport. Whiting C. Faulkner, postmaster, is chairman of the arrangements committee. Other members are Dr. A. B. Eagle, Sam Howard, Lou Cohen, J. M. Sellers Jr. and Trammell Hollis.

Miss American Aviation



Miss Katherine Wilson

Who was selected as Miss American Aviation at the National Air Carnival in Birmingham June 3-4. She's a TWA hostess between Phoenix and San Francisco, an Alabama girl, 5 ft. 3 inches in height, blond with blue eyes, and weighs 112 lbs. Miss Dorothy Quackenbush, who used to pose for TWA's hostess pictures, won the contest last year.

NAA is Assailed as Parasitic Creature by Western Flying

The National Aeronautical Association was called "a parasitic sort of creature, which lives upon the efforts of its member chapters, without actually doing anything in return," in an editorial in the June issue of *Western Flying*, monthly aeronautical magazine published in Los Angeles.

Aiming its attack principally against the NAA's practice of "invading the territories of the very chapters from which it derives its principal sustenance," the editorial said the NAA was soliciting memberships for \$3 in Southern California while members of the chapter in that area have to pay \$5, \$2 of which is retained by the chapter for local activities. "It is a standard of ethics that would be difficult to comprehend in any other organization, but not in the NAA. It is just that kind of an outfit."

Nobody knows, the editorial said, how the NAA retains its chapters under such conditions. "It is probably a habit. The NAA has always resorted to tricks of this sort to maintain its topheavy staff and high-salaried president in Washington, and through the years, people have got used to it." The editorial praised the work of local NAA chapters but said they do this work "without the aid of the parent body" and could "perform just as well without the national association and would save the tribute they are forced to pay into the national treasury." The editorial suggested the NAA confine its activities to running air meets, and passing upon record flights.

Western Conference

Arthur S. Dudley, secretary of the Western Aviation Conference and secretary-manager of the Sacramento (Cal.) Chamber of Commerce, has announced Sept. 28-29 as the tentative dates for the next conference. The city selected is Fresno. Jean Vincenz, prominent city official of Fresno, will be in charge of local arrangements.

Ward Heads Committee

Cheyenne, Wyo.—Orren Ward of Cheyenne has been appointed state chairman of the Wyoming junior chamber of commerce aviation committee.

BIRMINGHAM SHOW DRAWS MULTITUDE

Steadham Acker Rings Bell Again With 100,000 at Free Spectacle

The 9th National Air Carnival took place in all its customary glory in Birmingham June 3-4 with at least 100,000 persons in attendance both days to witness the greatest free aerial show in the country.

Climaxing the two-day affair was the annual contest to select Miss American Aviation. This year the judges were faced with a difficult task for there were no less than 20 beauties, any one of which could have placed first. Lucky winner was Miss Katherine Wilson, TWA hostess, petite and blonde.

The judges were Al Williams, chairman; Ross Hadley, sportsman pilot of Hollywood; Devon Francis, aviation editor of the Associated Press; Jack Burnham, president of the Sportsman Pilot Association, Philadelphia; and Jim Wheeler, of Shell Oil Co., St. Louis.

Orchids went to Steadham Acker, manager of Birmingham Airport who was responsible for the entire carnival, and to Don Stremmel, of National Airlines, who proved to be the best air meet announcer anyone has heard since the Wright brothers first flew in 1903.

Gov. Frank M. Dixon of Alabama honored the carnival by his presence on Sunday, being the first governor to attend the show. He was an aerial observer in the World War.

A host of celebrities was on hand, including Helen Claire, New York stage star, and Joy Hodges, of both stage and movie fame. Don McNeil, announcer for the NBC Breakfast Club program, was master of ceremonies for several events, and Don Bestor's orchestra played for the Saturday night ball. Capt. Eddie V. Rickenbacker, president of Eastern Air Lines, crowned Miss American Aviation with customary adeptness. Social events began two days prior to the carnival with a party sponsored by Pennsylvania-Central Airlines, and continued through Sunday night.

Favored by ideal weather, the show at the airport moved on schedule and without untoward incident. Roscoe Turner was a feature attraction and Al Williams performed with more than usual agility in his fast Grunman, the Gulfhawk. A. J. Hartman amused the crowds with his 1910 pusher although the antiquated craft nosed over on its back on one occasion. Others who performed were Richard Thompson, Capt. Dick Granere in his ever-popular aerobatic act, A. B. Engle, Freddie Lanier and Red Foreman, Beverly Howard, Jess Bristow, Buddy Batzel, Clem Whittenbeck, Clare Bunch, Miss Bobby Lupton, Capt. Thomas Alvarez of the Cuban air force, Squeek Burnett, Leonard Peterson, the Alabama National Guard squadron and a group of Navy pilots from Pensacola flying Grummans and North American observation ships.

The *Birmingham Age-Herald* quoted Devon Francis as saying that "next to the National Air Races at Cleveland, the Birmingham show is the largest and best in the country."

PCA Names Hostess

In preparation for the purchase of Douglas DC-5 transports, Pennsylvania-Central Airlines has appointed Adele Jenkins as chief hostess for the line. Miss Jenkins leaves TWA for which she has been a hostess for four years. PCA will not require its hostesses to be registered nurses. It has never employed hostesses for its Boeing 247-D planes with which the line is now equipped.

42 Passenger 4-Engined DC-4 Wows Public in Eastern Debut

(Continued from page 1)

demonstrative of any theater audiences in the nation. A second reaction was expressed by those who were fortunate enough to make a flight in the ship when people not in aviation who have a traveling acquaintance with airlines, said over and over again on leaving the plane, "It just can't be true."

Probably nothing in the past five years has done more to dramatize air transportation as a method of carrying passengers and cargo than the cross-country flight of the DC-4. This comment is based not on industry and airline comments but upon the reactions of the lay public who are the actual and potential customers and who pay the fares. The DC-4, in other words, has capitalized and dramatized air transport development of the past decade, at least to a large section of the country cognizant of the flight either by personal view or by newspapers and newsreels.

Although it will be May, 1941, before the four-engined airplane can go into actual operation on the nation's airlines, providing orders are placed in the near future, it seems certain that four-engined airplanes carrying upwards of 30 passengers, will be demanded by the public and that any fear that the DC-4 is "too large" has been dispelled as far as acceptance is concerned. Whether traffic requirements will warrant this airplane by 1941 is another question, but several shrewd transport experts are willing to gamble that 42 seats can be filled on more profitable hauls.

Maneuverability and handling of the DC-4 were most commented on by industry people. The huge 60,000 lb. ship took off and landed in less space than the 21-passenger DC-3's at every airport, and at Washington, D. C., the DC-4 actually landed cross-wind on the short runway and used only 2,200 feet. (The control tower boys and local airline operations men wiped off plenty of perspiration after the ship came to a grinding halt and accomplished what the DC-3 is not even allowed to attempt.) At Cheyenne with 65,000 lbs. gross weight the DC-4 took off in 30 seconds at 6,100 feet altitude.

On more than one flight with full load of passengers one engine was cut off with propeller feathered, and in some instances both engines on one side, without any loss of control in evidence. On take-off the DC-4 climbs rapidly with the ease of an elevator.

The ship left Burbank May 22 and flew to Cheyenne via Oakland and Salt Lake City. Over 220 press, camera and radio representatives made courtesy flights at Burbank and Oakland, and 20,000 spectators were on hand at the latter city to greet the airliner. At Salt Lake City the crowd numbered 25,000 persons, while at Cheyenne the ship was inspected by large numbers. A stop was made at Denver for courtesy flights and at Chicago police were called to handle the crowds for several days.

Filled with newspapermen, the DC-4 left Chicago June 1, stopping for two hours at Cleveland. After circling Newark Airport and the World's Fair, and making passes at runways at North Beach Airport, the plane landed at Floyd Bennett Airport where about 5,000 persons were waiting. The ship was escorted by a DC-3 and an Army pursuit ship into New York.

On board the plane at various times were Douglas Aircraft Co. and United Air Lines officials. Benny Howard, United test pilot, was in charge of the ship with United pilots taking over the controls for various legs. From Chicago to Cleveland the captain was Harold Knoop and from Cleveland to New York, the captains were P. E. Lott and Walt Addams. United's flight officer A. C. Reed was on board the entire coast-to-coast flight.

Excellent average speeds were maintained throughout. The Burbank-

Cheyenne trip was made with a block-to-block speed of 210 mph., while the Chicago-New York trip was flown at 207 mph.

There is no actual estimate of the number of persons who inspected the interior, but it must number about 50,000. Eleven hundred persons an hour were shown through the ship at the major stops. Many hundreds were taken up on courtesy flights. At Washington 484 were taken up in one day.

The entire flight from Burbank to New York was in charge of United Air Lines and United capitalized on the trip by having its insignia prominently painted on the ship and "Super Mainliner" spelled out in red on the fuselage. From New York to Washington and thence to Wright Field, where the ship is being inspected by the Air Corps, the Douglas Co. was in charge. All courtesy flights were made under control of the Douglas Co.

Only United Air Lines chose to take the DC-4 for testing but will pool all data for the benefit of the four other cooperating airlines who shared in the \$2,000,000 developmental cost with the Douglas Co. (American, TWA, Eastern and Pan American). According to the terms of the contract, all participating lines must give a yes or no decision within a short time. The exact date is not known but by the end of the summer it will be known whether the large lines will purchase at this time. United has indicated rather strongly that it is a likely buyer and has spent about \$400,000 in development of the plane.

Chief worry of the lines is (1) the huge initial investment (2) the high operating cost (3) necessity of filling so many more seats per trip and (4) the necessity of filling up the large cargo holds with express in order to make payload possible.

If 20 DC-4's are ordered, the cost per ship is understood to be about \$415,000. For less than 20 the cost rises sharply. For example, a production order of 16 would cost about \$470,000 each. KLM, Royal Dutch Airlines, has indicated that it wants four or six if there is a production order of 20.

Operating costs have been estimated at \$1.25 per mile, as contrasted with the average of 70¢ per mile operating cost of the DC-3. In order to make the DC-4 a paying proposition, at least 60% of seats must be filled all the time and more express must be carried. (The DC-4 can carry many times more express than smaller ships; cargo holds were originally designed very large on the assumption that express would have multiplied by this time).

Since two years will pass before the DC-4 can be placed in operation, no one can predict what passenger traffic demands will be, but there are those who feel that traffic will warrant larger planes by that time. One of the vital factors of profitable operation of the DC-4 will be quick overhaul and engine changes since the ship will have to be in the air more hours than on the ground. Walt Hamilton, formerly superintendent of maintenance for TWA and now with the Douglas Co., will make this one of his chief tasks in aiding the designs for the production orders.

Another chief worry of the lines is air mail pay. Most of them would like to know whether they will be paid a reasonable amount for carrying the mail or whether they will continue to haul substantial quantities of airmail free.

The DC-4 has a wing span of 138 ft. a length of almost 98 ft. and total height of 24½ ft. Gross weight of the prototype ship is 60,000 lbs., but the gross weight of production ships will be 65,000 or 66,000 lbs. The useful

load is 20,000 lbs. There are four Pratt & Whitney engines totaling 5,600 hp. Fuel capacity is 1,650 gallons. Cruising speed is 199 mph., although cruising speed was higher on actual operations. Landing speed is 70 mph. As a sleeper plane the DC-4 will carry from 30 to 35 passengers. Crew of five is standard.

There are no less than 1,300,000 rivets in this ship, plus 21,000 feet of electrical wiring and 5,835 feet of control cables. The Douglas Co. estimates the cost at \$2,400,000, and engineering time at 663,000 hours.

Distinction



To Marie Hess, chief stewardess of United Air Lines' eastern division, goes the distinction of being the first stewardess on the 42-passenger DC-4. She was chosen to accompany the ship from California to New York and Washington and was on board during all of the courtesy flights as well. She is shown above broadcasting at Omaha. A native of Kansas, she has been with United five years. When (and if) the DC-4 is put into operation, United plans to have two stewardesses on each flight.

Anniversaries

The first anniversary of testing of the DC-4, June 7, coincided with the 25th year of Donald W. Douglas in aviation. On June 6, 1914, Mr. Douglas received his appointment as assistant in aeronautical engineering in MIT at the salary of \$500 a year, payment in eight monthly installments. The DC-4 had its first test flight June 7, 1938, and within one year had over 150 hours and approximately that number of separate flights and landings under most exacting conditions in all altitudes.

Thach Resigns

(Continued from page 1)

was attorney for Colonial Air Transport, the company which secured the first domestic air mail contract in the country—between New York and Boston. Later on, when American Airways took corporate form it was Thach who handled the legal work. C. V. Whitney (now executive officer of PAA), Trippie and the late John Hambleton (who was killed in a private airplane accident in 1929) and Thach were the original group in Aviation Corporation of America, the predecessor of Pan American Airways Corp.

Since 1927 Thach has been vice-president and general counsel, actively engaged in administrative work. For several years, it is understood, he has been desirous of being relieved of executive work in order to resume a private practice. Although his resignation as vice-president and general counsel has been formally accepted by the PAA board, he will remain as a substantial stockholder and will be under retainer as special counsel.

Thach will divide his time between

\$44,000,000 SPENT IN RESEARCH WORK

Aero Chamber Reports on 5-Year Survey of 37 Manufacturers; Superiority Recognized

Approximately \$44,000,000 was spent in research and development work during the last five years by 37 American manufacturers of planes, engines and propellers, it was announced by John H. Jouett, president of the Aeronautical Chamber of Commerce, following a survey made by the organization.

The survey covered manufacturers' operations during the years 1934-38, inclusive. "Only five of the companies were not in business for the full period," Mr. Jouett said. "In that time the manufacturers had gross sales of \$468,000,000. Therefore, the \$44,000,000 spent in developing new equipment represented 9.4% of the industry's gross sales. The aggregate profits, after taxes, amounted to \$27,000,000, or a net of 5.8%. Approximately \$12,000,000 was paid in taxes."

Export sales during the period amounted to \$143,000,000, or 30.6% of total sales. Commercial sales inside the U. S. aggregated \$107,000,000, or 22.8% of the total. Combined commercial and domestic and export sales amounted to \$250,000,000 or 53.4% of the total. "In other words, more than half the industry's business has been outside the military and naval services of the United States," Mr. Jouett said.

"As a result of the industry's heavy investment in technical development," he pointed out, "it has continued to produce airplanes of recognized superiority throughout the world. That is evidenced by the large volume of sales abroad despite the most intense kind of competition from some foreign industries which have been aided by their own governments with liberal subsidies and credits."

May Drop Naval Reserves

The Navy's Bureau of Aeronautics is considering dropping from its rolls aviation cadets who have entered commercial aviation, it was hinted by Rear Adm. Arthur B. Cook before a House committee. Officials of the Bureau during the last year have begun to feel that they "will not be able to use these pilots on the airways who are reserves in time of war because of the almost certain need for their retention on the civil airways to meet war-time commercial transportation demands," Adm. Cook was quoted.

Dreams Realized

(Continued from page 1)

with the \$316 minimum first class one-way rate on the finer ocean liners. According to present plans, mail and passenger flights will be dispatched eastward every Wednesday to France, and mail flights every Saturday to Ireland and Great Britain.

The overnight stop at Lisbon is necessary, PAA said, while applications for permission to fly directly across Spain are pending before the Franco government and also until clearance has been obtained for after-dark landings at Marseilles. Elapsed time to Marseilles will be 44 hours, while the flights to Great Britain will require 24½ hours. Total mileage to Marseilles is 4650 and to Southampton, 3418 miles.

Washington and New York. Few executives in air transportation are as well known throughout the industry, as he has been during the past decade.



The Birdmen's Perch

THINGS-TO-REMEMBER DEPT.

1. To shoot your brother-in-law
2. The date of your wedding anniversary
3. To write Whopper about Gulf Aviation Gas

You can cut the list down to two right away (to one, if your b. i. l. and a gun are handy) by authoring that tall tale today. Remember . . . the monthly champ liar gets a swell diploma. Mail yours to

MAJOR AL WILLIAMS, alias "Tattered Wing-Tips,"
Mgr. Gulf Aviation Products, Gulf Bldg., Pittsburgh, Pa.

SPECIAL CITATION

On March 29th the National Safety Council bestowed Certificates of Award upon eight domestic airlines for their outstanding safety achievements:

American Airlines, Inc.
Eastern Air Lines, Inc.
Pennsylvania-Central Airlines Corp.
Braniff Airways, Inc.
Continental Air Lines, Inc.
Inland Air Lines, Inc.
T. W. A. (Eastern Division)
United Air Lines

Our congratulations to all for a fine record. And we're especially proud that the first three mentioned are Gulf clients—Eastern and Pennsylvania-Central being regular users of Gulf Aviation Gas and Gulf Airline Oil, while American buys gasoline from us in certain territories.

ADVICE TO THE LOVELORN DEPT.

Dear Auntie Wing-Tips:

My boy friend swears horribly because the bearings in his airplane motor keep burning out. What *shall* I do?

"Wondering")



"Wondering:"

Be tactful. Secretly fill his pockets with Gulfpride, the only oil refined both by conventional methods and by Gulf's exclusive Alchlor process. He'll be amazed, my dear, when you tell him this patented extra process removes more sludge and carbon-formers from the 100% Pure Pennsylvania.

Auntie (Versatility) Wing-Tips
P.S. If, after you (and handy Gulfpride) have removed all excuse for his vulgarities, he still swears, try putting cotton in your ears.

P.S. jr. As a last resort, get a new boy friend.



SCRAMBLED SPELLING

This month we have a different type of problem contributed by Bob Newill of Dayton, Ohio. Many thanks, Bob, and we hope our readers don't take as long to unscramble the following plane names as we did.

1. RAINWER. 2. SEWRBERT. 3. CHELEOKD. 4. YESKVERS. 5. BECTFEARHC. 6. SLOCNODADEIT. 7. YRRTOCALFTA. 8. COMOPNOUE. 9. RATSNA. 10. TNOSNIS.

We've got the list of answers handy so send in yours to Prof. Wing-Tips to be checked.

THIS MONTH'S WHOPPER

Dear Major:

Quite a few years ago while barnstorming, I gave an exhibition at a place called Texaloosie. After the show a couple of brothers wanted me to test-hop something they called a Flying Flea powered with a 1½ h.p. Whirlo washing-machine motor.

I had a little trouble getting it off so they called in a friend who had a secret preparation, claimed he had put a couple of drops on an old alarm clock and it gave him enough power to run a 16-inch centrifugal irrigation pump. This fellow came over with a ketchup-bottle full; said that was all he'd been able to get from the Gulf Oil Co.

About dusk I put a few drops of his stuff in the tank of the Flying Flea. There was a terrific whooish! We stood around stunned, then everybody looked straight up and there in the sky was the prettiest single set of fireworks anybody could hope to see. The Flying Flea had skyrocketed up and with a *poom* exploded into about 1000 smaller Flying Fleas which skyrocketed up and exploded

into still smaller Flying Fleas until the whole sky was aglow with midget Flying Fleas. Pretty soon the whole spectacle faded away toward the west.

Several years later while visiting friends in San Francisco, I felt something zoom up my back. Listening intently, it seemed I recognized the drone of the little Whirlo. Mine host suggested I jump into a bath tub and shake, which I did. Sure enough there was one of the little Flying Fleas banking around the tub like six entrants in an international speed race.



"That's a flea," he said.
"You're telling me?" I filled the tub up with water.

"California is full of fleas," he contributed.

"But this one is different," I said: "this is a Flying Flea." And to prove my point I let the water set for an hour, bottled it up and sold it as cleaning fluid.

Now if that stuff I put in the original Flying Flea is what is now know as Gulf Aviation Gas . . . boy, Major, YOU GOT SOMETHING! Yours,

Tam P. Mathews

Gulf Oil Corporation and Gulf Refining Company . . . makers of



GULF AVIATION PRODUCTS

WARNER SURVEYS TRANSPORT SPEED

Future Increases Depend on Number of Factors, Youngstown Group Is Told

Future increases in the speed of air transport planes are going to depend either on further reducing the weight and bulk of the engines, so that more engine can be stacked on to the same size of airplane and still leave some payload, or on leaving something off the airplane which offers resistance to high speed travel, or on finding some way of reducing the resistance of the parts that remain, Edward P. Warner, member of the CAA, told a Chamber of Commerce dinner at Youngstown, O., June 1, celebrating the inauguration of work on a \$2,800,000 airport for the city.

"If we wanted to fly now at 300 miles an hour it could probably be done, but only at the expense of using about three times as much power as is used for 200 miles an hour cruising," he said.

"Leaving things off the airplane has been a fertile source of improvement in the past and its possibilities may not have been exhausted as yet.

"As compared with the airplane of 10 years ago, that of 1939 has left off all the masses of external bracing that used to support the wings; it has left off the landing gear, at least in flight; it has left off a large part of the engine resistance since the present type of engine enclosure had hardly a third of the resistance of the engine of the old days; and it has left off about half the wing area that once appeared necessary, for the present-day machine uses only about half the wing to support a given weight that practice of 1929 would have demanded.

"There are designers who think there will be further advantages in leaving off the tail surfaces and the body, putting the passengers and other loads inside the wing. That is quite possible, but advocates haven't proved it is practical to get any large improvement of performance that way, and an airplane will have to be of enormous size—at least 300,000 lbs. total weight—for the wings to be thick enough to be pleasantly roomy for the passengers."

Warner spoke to 375 civic leaders and chamber members who gathered to honor those who had worked for the new airport plans which WPA will build. Bertram J. Parker, president of the local chamber, presided. Cyril C. Thompson, assistant to the president of United Air Lines, also spoke.

Included in the building program will be a hangar and an administration building. Three 3,600 ft. surfaced runways will be built, each having a graded extension to 4,500 ft.

Johnson Visions Airplane as Economical for Freight

Stating that the airplane is an economical means of transportation for freight as well as for passengers, Louis Johnson, Assistant Secretary of War on June 5 addressed the 1939 reunion of alumni of MIT at Cambridge, Mass. "One authority has estimated that for the cost of one 'Queen Mary' we could build at least 50 'Yankee Clippers,' which could move a large number of troops more than five times as fast over a distance of 3,000 miles," Mr. Johnson said. "I quote this fact merely to indicate the strides that our aeronautical engineers are making and to point out how the commercial, industrial and military efficiency of our nation may be increased as a result of their achievements."

Case Gets NACA Grant

A grant of \$1,800 from the NACA has been received by Case School of Applied Science in Cleveland to finance a study of a low-drag wing. The investigation will be made by Prof. John R. Weske and Karl Scheucher, a senior at Case.

Youngstown Breaks Ground



A feature of the ground-breaking ceremonies for the new airport at Youngstown, O., was a civic dinner at which the principal speakers were Edward P. Warner, member of the Civil Aeronautics Authority, and Cyril C. Thompson, assistant to the president of United Air Lines. In photo above are Warner, speaking, and left to right from him are H. E. Packard, of the Youngstown Chamber of Commerce; Dr. Carl Watson, Ohio WPA director, and Mr. Thompson. Drawing of the new airport is shown hanging over speakers' table.

Major News in Brief

Mid-Town Terminal

Revision of engineering details is all that is holding up the mid-town airline terminal at Park Ave. and 42nd St. in New York City. Construction work will get underway shortly, with the building scheduled for opening the first of the year.

North Beach Airport

No airline expects to move into North Beach Airport (New York City) before September and some are not even that optimistic. Mayor LaGuardia still is hoping to open the airport "officially" in July but these ceremonies will be held for purposes of drama only.

1939 British Service Doubtful

Having announced officially that they could not launch trans-Atlantic service in June, as had previously been announced, the British are now wondering if they will have any service this year at all. Reports over here indicate that the British will be lucky if they even have one or two trial flights using the experimental method of fueling in the air. No preparations have been made to service ships in Canada which means that the first flight is still some distance away.

Cooperative Advertising Campaign

The comprehensive cooperative advertising campaign which the airlines expect to stage in national magazines with the financial assistance of equipment and other vendors has by no means been abandoned despite the lack of news. Same \$40,000 still remains to be secured for the total budget but plans are moving forward regardless.

Dutch Order DC-5's

Four Douglas DC-5 transports have definitely been ordered by KLM, the Royal Dutch Air Lines. Six DC-4's will be ordered if a satisfactory price can be obtained, the price being determined by the orders from domestic airlines. KLM has virtually lost all interest it once had in the Boeing 307 and is expected to buy DC-4's.

Washington Airport

Washington's national airport is now one-fourth completed, according to Clinton M. Hester, CAA Administrator who has the full and final authority on the project. It is hoped to have the field open for operations by July 4, 1940, although there are plenty of takers for bets that this date is too early. Steady progress in the vast fill is being made, however. No authorization has been obtained to construct a CAA building on the airport.

CAA to Charge for Air Commerce Bull.

The Civil Aeronautics Authority has served notice that the *Air Commerce Bulletin* which has been distributed free on request in the past, will now be available only for a price. Effective with the July 15 issue, Vol. 11, No. 1, the subscription price will be 50c per year with an additional charge of 20c for foreign subscriptions except the Pan American Union. Single copies will be five cents.

The bulletin is now completing its 10th year of publication. The CAA said the demand has exceeded the supply available for some time and that the mailing list has accordingly been restricted. All sales will be handled by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. The CAA advises that it cannot handle sales itself.

Radio Teletype

The radio teletype system developed by the Civil Aeronautics Authority was demonstrated in Washington, D. C., June 8 when government and radio technical persons witnessed the teletype in operation aboard the United Air Lines research ship which was donated to the CAA for the occasion. The CAA's only experimental transmitting station, WWLL at Baltimore, sent ultra-high signals to the plane as it was flying south of Washington, the signals being converted into words on ticker tape on a standard teletype machine. The CAA plans to build a complete radio teletype circuit. J. R. Cunningham, director of communications for United, was in charge of the ship. W. E. Jackson, chief of the CAA radio development section, supervised the demonstration.

BILL ENYART JOINS N. Y. ACCESSORY CO.

Leaves NAA After Long Record But Continues as Secretary

William R. Enyart, secretary of the National Aeronautic Association and closely identified with that organization for a number of years, has resigned to accept a position as general manager and treasurer of Simmonds Aerocessories Inc., 551 5th Ave., New York City. He assumed his duties June 15.

Enyart has been successively editor of the NAA magazine, secretary of the National Contest Board, and assistant general manager of the association. He is currently vice-president of the Private Fliers Association, secretary of the Joint Aviation Council, treasurer of the Sportsman Pilots Association, chairman of the executive board of the National Intercollegiate Flying Clubs, secretary-treasurer of the Professional Racing Pilots Association, member of the Air Youth Committee headed by Winthrop Rockefeller, and director of the Air Reserve Association, Academy of Model Aeronautics, and the Soaring Society of America.

A graduate of the University of Illinois and of the Army Flying School, he has held a pilot's rating in the Army Air Corps Reserve since 1923. He has served in technical capacities with Fairbanks Morse & Co., builders of diesel engines, pumps and motors, and with Roots-Connorsville Co., builders of blowers, superchargers and exhausters. In 1928, as a staff member of Universal Airlines, he helped inaugurate the first passenger service between Chicago and Cleveland. In 1930 he was associated with J. S. McDonnell Jr. in the design and construction of the McDonnell monoplane "Doodlebug" for entry in the \$100,000 Guggenheim safe aircraft competition.

He will continue to be active in NAA affairs as secretary and will devote part of his time to NAA contests, private flying and youth programs. This work will be handled at NAA by Charles Logsdon, his assistant, and Albert L. Lewis, former president of the Academy for Model Aeronautics who has recently joined the NAA staff, and William D. Strohmeier who is on leave from the Piper Aircraft Co. to assist in organization of an expanded program for the NAA private flying division.

Simmonds Aerocessories maintains a factory at Long Island City as well as the 5th Ave. offices. Parent company is Simmonds Aerocessories, Ltd., of London, with a company of the same name in Paris. Associated firms are in Poland, Italy and Australia. Current products manufactured in this country include control systems, cowling clips, non-skip aircraft flooring and navigational instruments. As general manager one of Enyart's major tasks will be the development of new type accessories for U. S. production and marketing throughout the world.

Urges Aeronautics Courses

Sacramento, Cal., June 1—The state assembly has before it for consideration SB 920, by Sen. Chris N. Jespersen, which would authorize the state superintendent of public instruction to cooperate with school authorities in the state in the establishment of courses in aeronautics. The bill was approved yesterday by the senate.

Martin Given Degree

Glenn L. Martin of Baltimore, president of the aircraft firm that bears his name, was honored by the University of Maryland at commencement exercises on June 3 when he was given a Doctorate of Engineering degree.

To Pan American's Men:
To Boeing's Clippers:

PIONEER'S SINCERE
COMPLIMENTS



The great new 74-passenger Transatlantic Clippers carry the complete line of Pioneer "Autosyn" Remote Indicating Instruments as well as Flight and Navigation Instruments

CAN you conceive of any other type of flying in which instrumental reliability could be more vital than in the transoceanic service between United States and Europe by Pan American Airways?

Here, indeed, is pioneering! And being chosen airmates on this, as on virtually every such enterprise in history, Pioneer Instruments once more share the pioneers' responsibilities.

To Boeing, for creating magnificent 6,000 horsepower 74-passenger 314 Clippers, and to Pan American for the inspiring achievements of its splendidly prepared personnel, Pioneer's craftsmen pay respectful compliment.

PIONEER INSTRUMENT COMPANY, Inc., BENDIX, NEW JERSEY
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PRIVATE FLYING

Australian Aviatrix Visits U.S. on World Tour; Plans Air Exhibit

Miss Nancy Bird, one of Australia's outstanding women flyers, holder of a transport license with almost 100,000 miles of flying to her credit without accident, and owner-operator of an aerial ambulance service into the "back-blocks" or "bush" country, is visiting the United States as part of her world tour on which she is studying civil aviation and collecting material for an international aviation exhibit to be held in Australia.

Learning to fly in 1933 at the age of 17, Miss Bird obtained her "B", or commercial license during 1934-1935. In the latter year, she organized the first ladies' flying tour in Australia and flew approximately 22,000 miles, carrying 900 passengers.

In 1935, she purchased her own plane, a Leopard Moth, a 130-hp. ship, which will carry two passengers as well as a pilot. Operating from Bourke, New South Wales, she flew the nurses of the Far West Children's Health Scheme on regular trips into the "bush," where there are no railroads and where other means of transportation are inadequate. Complete lack of airports necessitated landing in any available clear space. By letting down the back of a seat, forming a "stretcher," it was possible to convert the plane into an ambulance.

After winning the ladies' trophy in the Brisbane-Adelaide air race in 1936, Miss Bird operated a similar ambulance and charter service from Cunnamulla, Queensland. At both Cunnamulla and Bourke, she erected hangars, selling the former one to the municipality. During her spare time, she transported sheep and cattle buyers.

Private flying in Australia is dominated by the six government-subsidized Royal Aero Clubs, Miss Bird explained. Members pay a \$15-a-year subscription fee, plus payment for instruction. The clubs furnish planes, insurance, etc. For each student receiving a commercial license, the club is awarded approximately \$100 by the government, plus \$50 for each yearly renewal. There are also "country" clubs, which are operated on a subscription basis without subsidy, and commercial schools, at which students pay only for instruction, Miss Bird said. She added that she hopes to study American private flying during her U. S. visit.

The international aviation exhibit is her own idea, and she sold her Leopard Moth to finance the world tour. Leaving Australia in July, 1938, Miss Bird traveled extensively on Imperial Airways, KLM, Swedish Airlines, Air France, Lufthansa, Finnish Airways, Railway Air Services (British) and others, taking her first boat ride between Great Britain and the U. S. She will return to Australia this fall. The exhibit is to be entitled "Wings the World Over."

Here are some of the things she has asked the airlines to enter in the exhibit: maps, models of company aircraft, posters, flags, air views of airports, calendars, baggage labels, timetables, ash trays, films, and pictures of flying personnel, the company's managing director, main office, maintenance shops. European airlines have shipped numerous exhibits, Miss Bird stated, adding that she hopes to obtain much material from U. S. lines.

Miss Bird flew from New York to Washington in the Douglas DC-4, and handled the controls for 10 minutes. "I held the wheel and the ship flew itself," she explained.

Miss Bird is a member of the 99ers, Women's International Association of Aeronautics, Royal Aero Club of New South Wales, Narromine Aero Club, Royal Aeronautical Society, Les Vieilles Tigres, Overseas Club and the Lyceum Club.

CANADIAN SCHEME

Members of Subsidized Clubs Will Be Trained for RCAF; RAF To Benefit

Launched in May, a pilot training scheme in which Canadian government subsidized flying clubs participate has resulted from negotiations between the British and Canadian governments which makes it possible in the first year for 75 Canadian pilots to be trained for the RCAF and 50 from England for the RAF. It was announced that the British group would be trained in Canada, since last year 15 RAF pilots took preparatory flight training there and returned to England for following courses.

Canadian flying clubs selected to participate in the plan are those at Halifax, Hamilton, Montreal, Vancouver, Calgary, Regina, Winnipeg and Toronto. For 50 hrs. of a required type of flying, the clubs will be awarded \$800 for each pilot. A second stage of flying will be done at Camp Borden with a third program at Trenton. Pilots then will be suited to fly RCAF service machines.

Arkansas Claims Oldest Consecutive Air Tour

The 12th annual Air Tour held by Arkansas flyers took place May 12, 13 and 14, having originated in 1928, being held each year since that date. Sponsors of the tour claim that Arkansas has the distinction of conducting the oldest consecutive annual air tour in the United States.

The 1939 tour was organized on short notice which, combined with bad weather in certain sections, contributed to a small list of entries. Approximately 15 planes took part in the tour. The group left Little Rock, visiting El Dorado, Texarkana, Hot Springs, Pine Bluff, Brinkley, Ark., and Memphis, Tenn., where the flyers remained overnight for the Cotton Carnival Air Show.

Tour's officials were Ernest L. Bailey, mayor of Cabot, who acted as tour commander; Buck Carter, El Dorado, official starter; C. W. Holderbaum, Little Rock, contest committee chairman; Capt. Charles M. Taylor, Little Rock, of the 154th Observation Squadron, Arkansas National Guard, who served as general chairman.

Making World Tour



Miss Nancy Bird, one of Australia's outstanding women pilots, studies the KLM aerial sign-post in Holland. She is now in the U. S. on a world tour, collecting material for her international aviation exhibit, to be held in Australia.

KENYON AND YALE WIN

Intercollegiate Flyers Meet at Pontiac, Mich., and New Haven, Conn.

Kenyon College took first place in a regional intercollegiate flying meet held recently at Pontiac (Mich.) municipal airport, winning 18 points. Other schools placed in the following order: University of Detroit, University of Michigan, Akron University and Wayne University. Bob Legg, Kenyon flyer from Gambler, O., was individual high scorer.

First place with 23 points was won by Yale University in the New England Intercollegiate Air Meet held at New Haven, Conn., May 20-21. Harvard University was second with 12 points and Amherst third with 7.

SPA Cruise

Members of the Sportsman Pilots Association will leave on their second international cruise to Canada on July 15, the goal being St. Jovite, north of Montreal, where cruise members and their guests will camp, swim, fish, hunt and ride for a week. The eastern wing will meet at Wings Field, Ambler, Pa., and the western wing will rendezvous at Wayne County Airport, Detroit. Both wings will depart on July 15. The annual meeting will be held July 17 and the cruise starts back on the 22nd. Jack Burnham, president, has appointed committees for the annual meeting.

Kansas City, Mo.—New members of the KC chapter of WNAA are Bette Peltier and Lee Saunders. Mrs. Ella Sittler is a flying unit addition.

Arkansas Tour Officials



Three officials of the 12th annual Arkansas Air Tour shown above, l. to r.—Ernest L. Bailey, tour commander; Capt. Charles M. Taylor, general chairman; Buck Carter, official starter.

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Mrs. Mark P. Bean Elected WNAA Head At Salt Lake Session

Salt Lake City, May 28—New Officers of the Women's National Aeronautical Association, elected during the national convention held here May 26-27, are: Mrs. Mark P. Bean, Albuquerque, N. M., last year's treasurer, president; Mrs. Byron Q. Van Cott, Salt Lake City, 1st vice president; Mrs. Andy Anderson, Dallas, 2d vice president; Miss Julia Quigley, Kansas City, Mo., treasurer; Mrs. B. F. Roberts, Albuquerque, secretary.

Following directors were elected to serve during the ensuing year: Mrs. Warren Blazier, Wichita, Kan.; Mrs. Alma Martin, Shreveport, La.; Mrs. Georgia Benter, San Diego, Cal.; Mrs. David Logg, Seattle; Mrs. W. C. Leberman, Ft. Worth, Tex.

Mrs. Moss Patterson of Oklahoma City is retiring president, having served two years. Retiring secretary is Mrs. John H. Burke of Oklahoma City. Convention city for 1940 will be selected later, but it was indicated that San Diego would be chosen. For an outstanding record as governor of the Texas district, Mrs. Anderson of Dallas was awarded the president's cup, a trophy offered personally by Mrs. Patterson.

Mrs. Patterson urged delegates to support the Amelia Earhart Foundation, a plan which would establish a scholarship fund and build a hall on the campus of Thiel College, Greenville, Pa., to house mementoes of the late woman flyer.

Speakers at a luncheon on the first day of the session included Mrs. Mary D. Briggs, Los Angeles postmaster; Walter L. Roche, Salt Lake Chamber of Commerce aviation committee; I. A. Smoot, SLC postmaster, and Mrs. Patterson. Toastmistress was Mrs. L. C. Higginbotham of SLC. Among guests was Mrs. Henry H. Blood wife of Utah's governor.

Guest speaker at the banquet was Alfred Frank, director of Western Air Express. Mrs. Van Cott was general convention chairman.

Soaring Meet

One hundred pilots and 40 gliders are entered in the 10th Annual National Soaring Contest to be held at Elmira, N. Y., from June 24 to July 9, according to Arthur L. Lawrence, contest director of the Soaring Society of America. Among those entered are Harvey Stephens, the movie star of Los Angeles, and eleven other enthusiasts from the west coast, Jack O'Meara will enter a newly designed high performance sailplane, the "Super-Albatross" in which he will attempt to recapture the national soaring championship he held in 1932.

New England Tour

The annual New England Air Tour will be held June 22-25 starting from Hartford, Conn., and ending up on Cape Cod with intermediate stops at Burlington, Vt., Augusta, Me., and Providence, R. I. The tour is being sponsored by *The Yankee Pilot*, regional aeronautical magazine.

Landing Gear Tests on Ryan S-C



George H. Dowty, head of Aircraft Components Ltd. of England, is shown in front of a Ryan S-C metal cabin plane on which experimental Dowty shock struts were installed for demonstration purposes in the U. S. The Dowty wheel makes use of a horizontal rather than vertical telescopic movement. The full cantilever gear structure is rigid with the exception of the short arm to which the wheel is attached. Dowty recently visited American factories with a view to establishing connections for the manufacture of Dowty wheels and other hydraulic landing gear mechanisms.

75 ON FAIR TOUR

Florida Air Cavalcade to New York
One of Biggest

With 52 airplanes already signed on June 1, a total of 75 ships are expected to take part in the Florida Air Tour to New York June 20-28. The tour will leave West Palm Beach, on the 20th and arrive at Roosevelt Field, L. I., on the 22nd. The return trip will begin on the 26th.

Nassau County, L. I., which owns a plane, will send the ship and pilot, Jack Whitney, to Florida to escort the tour members to New York. Ralph Lockwood, Dick Fell and Jim Griffin, all Gulf Oil pilots, Dexter Martin, director of aeronautics for Florida, and Bill Hutchins of the CAA, will accompany the participants. Free fuel is being provided by Gulf. Night stops are at Savannah, Ga., and at Richmond or Washington. Leading the tour are Herbert Whitney, director of the Florida aviation department, and Wright Vermilya, of West Palm Beach Aero Corp. and NAA governor for Florida.

NEW AMPHIBIAN

Ray Applegate to Build Low-Priced Ship With 75 hp. Engine

O. J. Whitney Inc., New York City, announced June 7 that production will begin shortly on a new low-priced amphibian which will be built by Ray Applegate of Chicago and which the Whitney company will distribute. The announcement said the approximate price would be \$2,500.

The Applegate amphibian is a pusher type to be powered with a 75 hp. engine (type not announced) and will have a cruising speed of 90 mph. A prototype ship now is being tested. Among features are the electrically welded non-corrosive hull, stainless steel tail surfaces, retractable rubber wing tip floats, and a special "disappearing" hood. When the hood is adjusted to become a windshield the cabin is converted to an open cockpit.

Applegate is a graduate of MIT and as consulting and sales engineer to Aircooled Motors Inc., he designed, developed and placed into production the 50 hp. and 60 hp. Franklin aircraft engines. His aviation experience dates back to 1920. He was engaged in early airline and air mail development.

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Aeronautical Charts

The U. S. Coast and Geodetic Survey, Dept. of Commerce, Washington, D. C., announces the following new editions of charts which cancel all previous editions. Pilots are warned against using obsolete charts.

New Editions of Sectional Aeronautical Charts

(All sectional aeronautical charts are scaled at 1:500,000, and priced at 40c each, with a discount of 33-1/3% on orders, including assortments, grossing \$10 or more.)

BEAUMONT. May, 1939. Size 20 x 47". Located in latitude 30°-32' north, and longitude 90°-96' west, covering an area of about 57,000 sq. mi. Addition of Lake Charles radio range and the beacons along the Houston-New Orleans lighted airway.

BUTTE. May, 1939. Size, 20 x 38". Latitude 46°-48' north, and longitude 108°-114° west, an area of some 47,000 sq. mi. Includes the Great Falls radio range.

CINCINNATI. May, 1939. Size, 20 x 44". An area of about 32,000 sq. mi. located in latitude 39°-40' north, and longitude 84°-90' west. Springfield radio range added. Indianapolis radio range relocated and Louisville radio range realigned.

KANSAS CITY. May, 1939. Size, 20 x 43". Latitude 38°-40' north, and longitude 90°-96' west, an area of about 52,000 sq. mi. Relocation of Columbia radio range, realignment of St. Louis radio range and addition of radio ranges from Chanute and Springfield.

MIAMI. May, 1939. Size, 26 x 38". Latitude 24°-28' north, and longitude 80°-83° west, an area of about 25,000 sq. mi. Radio ranges added at Tampa and Melbourne; Miami radio range realigned; Titusville radio range deleted.

NASHVILLE. May, 1939. Size, 20 x 44". Latitude 36°-38' north, and longitude 84°-90° west, an area of about 53,000 sq. mi. Smith Grove radio range added with an accumulation of changes since last edition.

NEW ORLEANS. May, 1939. Size, 20 x 32". Latitude 28°-30°-30' north, and 89°-94° 20' west, an area of some 25,000 sq. mi. New radio range at Lake Charles and realignment of radio range at New Orleans.

PRESCOTT. May, 1939. Size, 20 x 45". Latitude 34°-36° north, and longitude 108°-114° west, an area of about 54,000 sq. mi. Realignment of radio range at Kingman and Ashfork, and an accumulation of changes in airports since last edition.

SALT LAKE CITY. May, 1939. Size, 20 x 41". Latitude 40°-42° north, and longitude 108°-114° west, an area of about 51,000 sq. mi. Plymouth radio range added and Wendover radio range relocated.

Grand Rapids, Mich.—Those retaining posts as officers of the local chapter of the NAA are: J. G. Vinkemulder, pres.; Charles M. Kindel, Jr., 1st v. p.; Allen J. Lowe, 2nd v. p.; Raymond J. Bonini, treas.; Norman E. Price, secy. Board, which includes all officers, also was reelected. Other members are Paul H. Miller and John W. Dregge.



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THE WACO AIRCRAFT COMPANY, TROY, OHIO

New Antenna System is Presented by RCA

A new antenna system, known as model AVA-41, intended for commercial and private planes to pay out and reel in the trailing wire antenna, has been introduced by RCA Manufacturing Co., Inc., Camden, N. J. The equipment has been designed to provide versatile and efficient antenna installation, requiring the least amount of attention and effort to operate.

The system is designed to operate safely with a maximum peak voltage of 1,500 volts at any frequency up to 6,500 kilocycles and an altitude of 31,000 ft. RCA's announcement pointed out the following outstanding features provided by the system: One antenna replaces two formerly required for the same service; operation is single handed and fool proof; can be installed in any type of plane; requires little space and is light in weight; easy to operate.

"The reel is constructed with a braking mechanism which automatically locks the reel when the handle is released," the announcement said. "Wire cannot be unreel while the reel is locked and, since the antenna is entirely encased from the reel to the weatherproof fitting on the outside end of the entrance fairlead, it is impossible for the antenna wire to become unwound and pile up inside the ship."

Another Cub Record

Another world production record for commercial aircraft has been claimed by Piper Aircraft Corp., Lock Haven, Pa., with the news that in May 201 Cubs were delivered. This number represents an increase of 208% over sales in May 1938. One Cub every hour and 10 minutes is the pace maintained by a double shift at the Piper plant where 475 employees are working, contrasting to approximately 200 a year ago. Piper also held the previous production record when it delivered 123 planes in April. As of May 31 a backlog of 250 orders was reported.

Sisters Lose Suit So They Just Erect 'A Poor Little Old Aerial'

Tulsa, Okla.—The Misses Rose and Maudellen Littlefield lost their \$2,500 damage suit May 3 against the city of Tulsa, the park board, American Airlines, Mid-Continent Airlines and Spartan Aircraft when a jury in the local pleas court decided that airplanes are not public nuisances when they fly over residences, particularly when they do it from a safe distance.

The Littlefield sisters claimed their home north of municipal airport was damaged when multi-engined planes flying overhead weakened the house and caused other damage. In addition, the sisters said they had no peace of mind.

Defense testimony showed none of the incoming or outgoing planes flew any closer to the Littlefield house than 150 feet and usually a greater distance. The city and park board were removed from the lawsuit by demurrers sustained

by the courts.

Losing the lawsuit, however, did not end the matter. Charles Short Jr., manager of the airport, discovered the sisters had erected 30-foot poles above the roof of their house and about 10 feet above recently installed obstruction lights. Short and Robert O. Lindsay, CAA inspector, immediately broadcast warnings. The sisters, meanwhile said the radio poles had been "slightly changed" and claimed the radio wires on the poles were connected with their radio.

"At the trial," one of them said, "their experts testified they never flew under 200 or 300 feet above your house. If that's so, they shouldn't be the slightest bit worried. A poor little old aerial you just stick up on our roof shouldn't bother them. Do you think they've ever worried about us?"

GOVERNOR IS DOUBTFUL Nebraskan Decries Increase for Aviation Development; Suggests Abandonment

Lincoln, Neb.—The appropriations committee of the Nebraska legislature has set the biennial budget of the state aeronautical commission at \$87,050 as compared with \$18,800 recommended by the governor and \$20,000 allowed two years ago. Funds are provided through a tax on airplane fuel and miscellaneous fees from aircraft inspection and registration.

Gov. R. L. Cochran decried the increase for aviation development set up by the committee as "an increase of \$67,000, or more than 300%, for an activity of doubtful value, and one that perhaps should be abandoned."

Butte Publicizes Jubilee

Butte, Mont., June 1—The Treasure State Jubilee Air Show will be held at Butte Airport on July 8 and 9 featured by the stunt flying of Tex Rankin and his troupe and aerial parades by private flyers who have been invited to participate. Preston K. Ramsey and Walter Freshman, in a publicity stunt, flew a plane from a Cincinnati factory to Butte in preparation for the event. Their "arrest" at St. Paul, staged for publicity purposes, was a part of the scheme.

Army Air Corps To Be Increased By 23,644

Under present plans, dependent on Congressional appropriations, the authorized enlisted strength of the Army Air Corps will be increased by 23,644 during the year July 1, 1939, to June 30, 1940, according to an announcement from the War Dept. on June 1.

During the months of July, August, September and October, 1939, 1,200 men will be enlisted each month; for the months of November and December, 1939, and January and February, 1940, 1,500 each month, and for the months of March, April, May and June, 1940, 3,211 each month, making a total of 23,644.

Of this number the Army plans to train 17,149 as specialists in all technical subjects relating to maintenance and operation of aircraft and accessories. The remainder of 6,495 will be used to fill existing vacancies in Air Corps organizations, both in the U. S. and in foreign possessions. Number to be trained will be divided among selected civilian schools; Chanute Field, Rantoul, Ill., and Lowry Field, Denver, Colo.

Only regularly enlisted men of the Army will be given training. No one will be trained as a civilian. Term of enlistment is three years. Suitably qualified men, citizens of the U. S., between the ages of 18 and 35 years, are eligible, but applicants under 21 are required to have parents' written consent. Upon acceptance by the recruiting officer each man becomes a private in the regular Army and is paid \$21 per month plus board, uniforms and other clothing, except civilian clothes.

Upon completion of his technical training, the student is eligible for promotion within the Army, but if he does not care to remain in the service, he can be discharged and return to civil life as a competent technician.

Civilian schools referred to, providing for the training of 1,000 Army Air Corps enlisted men, were announced on May 17. They are: Curtiss-Wright Technical Institute of Aeronautics, The Aeronautical University Inc., Roosevelt Field Inc., Spartan School of Aeronautics, Casey Jones School of Aeronautics Inc., New England Aircraft School, Parks Air College Inc.

ATA of Canada Objects to Profit Limitation of 5%

The Air Transport Association of Canada has voiced protests to the government over certain sections which have been written into Bill 38, "The Defense Purchases, Profit Controls and Financing Act, 1939." The first paragraph of Section 7 has caused particular opposition from the aircraft industry. The paragraph reads as follows:

"The maximum net profit received by any person in respect to any contract to which this section applies shall be limited to an amount equal to five per centum per annum on the average amount of capital of such person employed in the performance of the contract."

The association's protest points out that the post-war history of aircraft manufacture and operation in Canada is one of no profit and frequent loss of considerable capital. "The industry is not, and never has been, subsidized, as it has been and is in most other countries," the statement said. "It has been kept in existence only by the continuous investment of new money by those who had faith that eventually the necessity of commercial transport and national defense would be recognized by the government. The erroneous impression that large profits are being made by such industries as the aircraft industry in Canada, which many people may gain from the debate and enactment of such legislation as that contained in Bill 38, is regrettable."

Attention also is called to the fact that the U. S. Congress has allowed aircraft manufacturers a 12% profit, also providing that losses of one year or one contract may be recovered during the succeeding four years without penalty. Another point made by objectors is that the method of controlling the Canadian profit kills incentive.

Turner As Chief Starter

Col. Roscoe Turner, speed pilot, will officiate as chief starter at the Second Amateur Air Show of Chicago on June 25 at Curtiss Reynolds Airport near Glenview. Early entries for competitions had been received from flyers in Minnesota, Iowa, Indiana, Wisconsin, Illinois, Ohio, Nebraska, and Michigan. It is expected that 300 stock light planes of 75 hp. or less will participate, including members of the 99'ers and the Chicago Girls Flying Club.

1,000th Unit



Final inspection of Curtiss-Wright's 1,000th full feathering propeller is observed by Robert L. Earle (left), vice president and general manager of Curtiss Propeller Div., Clifton, N. J. It was said this figure marks a new world's production record for propellers of this type. It will be delivered to Glenn L. Martin Co. for installation on a Martin 139 bomber for the Netherlands East Indies. Mr. Earle announced that the Curtiss plant is engaged in manufacturing more than 1,000 additional props.



Douglas relies on "Stanavo" to meet every new requirement for better fuel.

As the aviation industry marches forward—"Stanavo" keeps pace! Ever since the Cloudster, first Douglas-built plane, took to the air in 1921, The Douglas Aircraft Company has relied on "Stanavo" research and development to meet the increasingly exacting demands of aircraft design.

Today "Stanavo" Aviation Gasoline flies with the world's most advanced aircraft—including the giant Douglas DC-4. This famous fuel gives you all the fine performance any plane is built to deliver. Insist on it for your plane.

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STANAVO SPECIFICATION BOARD, INC.

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6-Month Accident Report Released by Air Safety Board

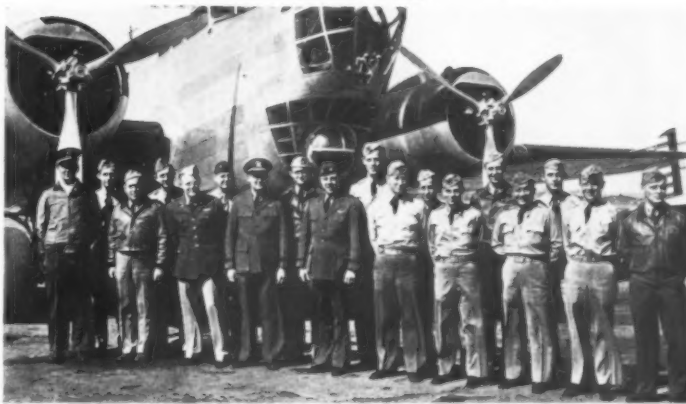
Not a single pilot was killed and only four passengers met death in the only two fatal accidents that occurred during the last six months of 1938 on domestic scheduled airlines of the U. S., the CAA's Air Safety Board has announced. The lines flew 76,645,172 passenger miles per passenger fatality. Including foreign lines, scheduled air carriers flew 34,390,026 passenger miles per passenger fatality, and 14,016,321 plane miles per fatal accident during the last half of '38.

These figures compare with 10,678,186 passenger miles per passenger fatality and 13,569,872 plane miles per fatal accident during the same period in '37. On all lines, domestic and foreign, during the last six months of '38, there were three fatal accidents in which 10 passengers, one pilot, two co-pilots and eight crew members lost their lives, as compared with three fatal accidents in which 29 passengers, three pilots, three co-pilots and two crew members lost their lives in the last six months of the previous year.

Domestic carriers in the period had 18 accidents of varying degree of seriousness, flying 2,029,252 miles per accident. Foreign and territorial carriers had five accidents of all kinds and flew 1,104,485 miles per accident.

Causes of accidents on domestic, foreign and territorial services were as follows: personal errors, 41.30%; plane failures, 27.61%; weather 9.35%; airport, terrain or water, 17.39% undetermined and doubtful, 4.35%. The 23 accidents occurring in the period July-December 1938 included: collisions in full flight with objects other than aircraft, 2; landing accidents, 7; take-off accidents, 2; taxiing accidents, 6.

18 Men and a Douglas B-18A



Eighteen picked officers of the Air Corps Technical School at Chanute Field, Ill., grouped in front of a Douglas B-18A bomber in which they flew to California where they visited both Douglas plants and factories of Consolidated, Lockheed and North American Aviation. Visits during the five-day tour also were made at maintenance departments of United Air Lines at Cheyenne and TWA at Kansas City.

In addition to Capt. William P. Sloan, commander of the detail, the following made up the party: Air Corps—Capt. John J. Morrow and Lieuts. Lawson S. Moseley, Elvin S. Ligon, Arnold T. Johnson, Clair L. Wood, Harold L. Kreider, Millard C. Young, Paul T. Hanley, John M. Hutchison, Joseph B. Stanley, Harry Coursey, Home A. Boushey, Coast Guard—Lieuts. E. E. Fahey, L. H. Siegar, C. L. Harding, Marine Corps—Capt. B. C. Baterton, Philippine Army Air Corps—Lieut. A. O. Cruz.

Tennessee's New Problem

Rapid increase of aeronautical activity in Tennessee has brought the bureau of aeronautics new problems, including that of law enforcement, since it has jurisdiction over all aircraft, airmen and landing fields as well as traffic through the state. The aeronautics commission has instructed Maj. Walter M. Williams, director of aeronautics, to take necessary steps to enforce the existing aeronautical laws and to prepare new regulations to cope with increased activity. The commission consists of Will T. Cheek, chairman; Percy McDonald, Memphis; Marion Sell, Johnson City, and C. W. Phillips, commissioner of highways.

Arizona Port Dedicated

Wickenburg, Ariz., May 30—Out Wickenburg Way Airport, three miles north of here, was dedicated today before 1,500 persons. Speakers at the ceremony were Dr. J. Gordon Shackelford, president of Phoenix Aviation Club; John Perkins and Mayor Harold P. Sullivan.

Ground School Head Named

Harkness B. Davenport, chief pilot & instructor of Sky-Sport Associates, Hugh Watson Field, Sharonville, O., will be in charge of a free ground school to be offered by the company. John B. Bogart, president, has announced.

Mail Orders

Karl Ort Exceeds Statistics on His New Catalog

Karl Ort of York, Pa., who operates a mail order house of sizable proportions and who sells everything from goggles to ash trays and aviation jewelry, has issued a new vari-colored 36-page catalog which, he says, sets new records of all sorts.

More copies of this edition are being printed than the combined production of all other aviation catalogs put together, he says, while if this edition was stacked up in one pile it would reach an altitude of 855 feet. Printing cost reached \$20,000.

Ort's enterprise in building up his mail order business and capitalizing his name around the world, has been one of the amazing by-products of Orville and Wilbur Wright's escapades down on those sand dunes back in '03. One of the more enviable features of his business is his practice of charging a dime for the catalog. "Unless I am too full of myself or too egotistical," he wrote the trade papers, "I think the catalog might be laughingly referred to as the 'Sears Roebuck' or 'Montgomery Ward' catalog of the aviation field."

New EAL Club

Eastern Air Lines has launched the Flying Rangers Club for passengers riding between San Antonio and Houston. The flight requires 80 minutes and passengers automatically become members of the club. It's similar to the Eighty Minute Club between Washington and New York. According to C. A. Sikes, district traffic manager at San Antonio, the membership plan began June 1.

"WHAT IMPRESSES ME ABOUT EASTERN AIR LINES"

● Said a first-flight air traveller recently, "is the efficient, business-like manner in which they dispatch their planes. I am astounded at the great volume of travel by air. The other night, when I flew to Atlanta, Ga. from Chicago, I was amazed to see six planes of The Great Silver Fleet lined up ready for the takeoff. One had come in from Miami, Fla. with passengers from Florida and the East Coast cities of South America and the Caribbean countries via Pan American Airways connection, destined for New York and Chicago; another was from San Antonio, Tex. and the Southwest bound for New York; one was from Brownsville, Tex. on the International border with

passengers who had flown via Pan American Airways from the West coast of South America, Central America and Mexico, bound for New York.

● There were planes from all over the Eastern Air Lines system pausing for passengers, air mail and air express. A few minutes later they were winging their way into the night. And the remarkable thing to me was that nobody connected with the procedure could see that a remarkable job was being done. It was just 'business as usual' with them every night at midnight."



EASTERN Air Lines

MEMBER OF THE NATIONAL SAFETY COUNCIL

Dedicating the World's Fair Aviation Building



Col. Edgar S. Gorrell, president of the Air Transport Association, cuts the ribbon at the dedication of the Aviation Building at the New York World's Fair on May 20. In the front are, left to right, Thomas A. Morgan, of the Sperry Corp., chairman of the fair's aviation advisory committee; Grover Whalen, fair president; Robert H. Hinckley, CAA Chairman; Col. Gorrell, and Mayor Fiorello H. LaGuardia of New York City.



During the exercises for the opening of the building the Yankee Clipper flew over the grounds on its way to Europe on the first mail-carrying trans-Atlantic crossing. The aviation building is on the left.

Piper Exports 39

Returning from Europe on May 13, Ted Weld, vice president-sales, Piper Aircraft Corp., Lock Haven, Pa., reported sale of 20 Cubs to Whitney Straight, Straight Aircraft Corp., London; 11 to A. J. Walters, London Cub distributor, and 8 Cub Coupes to Cub Aircraft Co. Ltd., Copenhagen.

CAA OPENS LAB

Hinckley Dedicates Research Center at Indianapolis

The new laboratory and research center built for the Civil Aeronautics Authority at Indianapolis Municipal Airport was dedicated May 29 by Robert H. Hinckley, CAA chairman in the presence of government and civic officials. The building cost \$100,000, of which the city paid \$65,000 and PWA the remainder. About \$800,00 worth of safety devices and other equipment is to be housed in the structure. Clinton M. Hester, CAA Administrator, was the principal speaker at the civic luncheon preceding the dedication exercises.

Most of the CAA radio and airway development work is being shifted to Indianapolis. For the present the engineers will concentrate on instrument landing devices and ultra-high frequency work. Lighting systems also will be tested. Among those attending the ceremonies were Richard C. Gazley, chief of the development and planning division; Charles I. Stanton, director of the bureau of federal airways, Col. Edgar S. Gorrell, president of the Air Transport Association, and Brig.-Gen. George H. Brett, in charge of the materiel division, Army Air Corps, Wright Field.

The Winner



Winning out over several hundred applicants, Robert Zimmerman has been awarded the Alfred P. Sloan \$2,750 foundation scholarship at MIT. Zimmerman first got into aviation seven years ago as a TWA mechanic's helper. He began as a "grease monkey" with the line and in 1934 was made project engineer.

Veteran Promoted



William Maxfield

New superintendent of maintenance for coast-to-coast TWA system. Succeeds W. A. Hamilton. Maxfield, 39, has been an airplane maintenance engineer for 20 years. (Story on page 23).

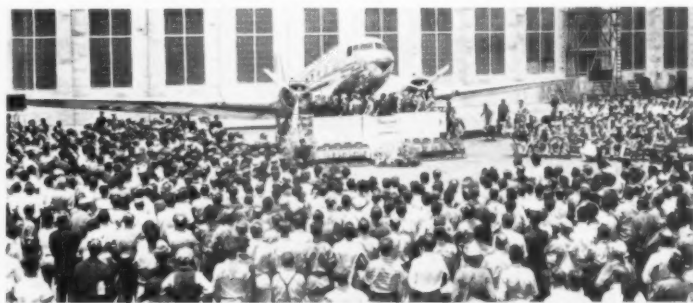
Joins Douglas



Walter A. Hamilton

New member of the executive staff of Douglas Aircraft Co. is a pioneer maintenance engineer and airline official. Left TWA as superintendent of maintenance. (Story on page 23).

Completing the 200th DC-3



Completion of the 200th twin-engined 21-passenger DC-3 transport by the Douglas Aircraft Co. was duly celebrated June 1 at ceremonies held outside the plant. It was the 350th commercial airliner built by the company and was christened the "Oklahoma City" for delivery to American Airlines. In a similar ceremony in August, 1936, American received the first DC-3. The airline is now 100% Douglas equipped, operating 50 transports, employing 2,311 persons including 266 captains and first officers, and has flown a total of 421,108,569 passenger miles in Douglas-built aircraft.

On the platform were Postmaster General M. H. Damme of The Netherlands, and H. H. Veenendaal, KLM representative in the U. S.; Joseph Marriott, regional CAA supervisor; Clark Ferguson, Carl Anderson, H. W. Beals, Ted Fuller and Dan Beard, all of American Airlines; Donald Douglas, president of Douglas Aircraft; and the following Douglas officials: Major Carl A. Cover, senior v. p.; Arthur E. Raymond, director of engineering; George W. Stratton, executive assistant; F. W. Conant, assistant general manager; Maj. Victor E. Bertrandias, export manager of the El Segundo division; William H. Lewis, comptroller; George A. Strompl, factory manager; H. P. Grube, treasurer, and Gordon Brown, sales department.

45 Enrolled in New School

Wichita, Kan.—A welding and sheet metal school has been opened at the Yellow Air Cab hangar by Aviation Industrial Co. here. More than 45 students have enrolled in the day & night school.

MASON WITH PCA

Appointed Publicity Director Effective June 1

George Mason, formerly in the publicity department of United Air Lines,



has been appointed director of publicity and advertising for Pennsylvania Central Airlines with headquarters in Pittsburgh. In recent months Mason has handled the promotional angle for J.

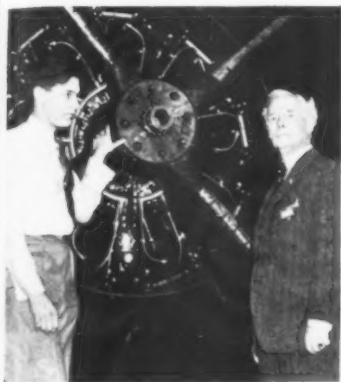
Walter Thompson advertising agency of the Howie Wing radio program sponsored by the Kellogg Co. Mason has long been active in aviation, having previously been an aviation editor in Boston and associated with the late John Shobe, well known Boston fixed base operator. Mason attended the Birmingham Air Carnival June 3-5 in company with other PCA officials as one of his first assignments.

CAA Safety Testing Station Dedicated



View of the \$100,000 CAA laboratory built for the CAA at Indianapolis Airport. It houses \$800,000 worth of safety devices and testing equipment.

Dutch P.M.G.



Dr. M. H. Damme (right), Postmaster General of The Netherlands and member of the board of directors of KLM, Royal Dutch Airlines, and A. A. Boon Hartsinck, New York representative of KLM, inspect a 1,000-hp. Wright Cyclone engine at the Wright Aeronautical plant at Paterson, N. J. Dr. Damme has just completed a tour of Europe, the Netherlands' possessions in the East Indies, and of the United States. On June 7 he flew in the Douglas DC-4. A former mechanical engineer, Dr. Damme spent his day at the Wright plant talking with Guy W. Vaughn, president of Wright; Myron B. Gordon, vice-president and general manager, and George Chapline, vice-president of sales.

The Tandem Fairchild Trainer



Supplementing the photo of Fairchild Aircraft Corporation's new tandem trainer which AMERICAN AVIATION published in the May 15th issue, are two more views of the

ships now undergoing tests at Hagerstown, Md. It is powered with a 165 hp. Ranger 6-410 engine. Performance figures and other data will be released shortly.

Penn-Central Invades Alabama



Pennsylvania-Central Airlines recently filed an application for a new route from Pittsburgh to Birmingham, so the company took advantage of the National Air Carnival in the latter city June 3-4 to make a survey flight to Alabama. It also entered three prospective PCA hostesses in the beauty contest. Left to right, L. P. Arnold, vice president; F. R. Crawford, executive vice president and secretary; Miss Erma Uhleman, 20, of Detroit; Miss DeLene Stover, 24, of Cleveland; Miss Betty Jane Hess, 19, of Pittsburgh; J. H. "Slim" Carmichael, operations manager, and C. Bedell Monro, President. (Editor's Note: Slim, where's your hostess?)

AA Building 'Largest' Station

American Airlines is building what is said to be the nation's largest aeronautical radio station at North Beach Airport, New York. There will be positions for eight radio operators, four for phone and four for telegraph. Positions for five teletype operators will be provided.

Fuel Agreement Signed

An agreement between representatives of more than 40 countries providing primarily for reciprocal exemptions from customs duties of fuel and lubricants for aircraft engaged in international flights was signed in London on Mar. 1, according to an announcement from the Automotive-Aeronautics Trade Div., Department of Commerce.

Representing Air Service

Knickerbocker, former aviation director of Plaza Hotel, Hollywood, has been appointed public relations director for Paul Mantz Air Service Inc., Burbank, Cal. He will supervise the Mantz sales dept. and charter service, both in Hollywood and at the Mantz base on Treasurer Island, San Francisco.

Air Corps Offices Moved

Offices of the Army Air Corps in Washington, excepting those of the chief executives, have been moved to the third floor of the Munitions Bldg. Remaining offices also will be moved to the third floor when building repairs are completed.

New Type Belgian Trainer



A new type of trainer, the Topsy M, built by Avions Fairey, Gosselies, Belgium, has been introduced to meet Belgium Air Force requirements and will be used for schooling and as an aerobatic trainer. A low-wing monoplane with tandem seating, the cockpits are covered by a transparent hood. Dual blind-flying equipment is standard. Fuselage and wings are tubular with bronze welded joints. The Gipsy Major I motor gives the Topsy M a maximum speed of 150 mph. Span is 32 ft. 10 in.; length, 27 ft. 7 in.; all-up weight, 1,870 lbs.; weight empty, 1,177 lbs.; cruising speed, 125 mph.; landing speed with flaps, 44 mph.; service ceiling, 19,650 ft.; range, 370 mi.



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Fortnightly Review

(Continued from page 1)

not have exerted the same consideration for a small company whose finances are just as relatively important to the individuals concerned. There are five grown men on the Authority. There has been plenty of time to conduct surveys of mechanics schools, to study the international situation, to make speeches to private flying groups—why weren't there a few hours many months ago that could have saved a small operator many thousands of dollars?

There is a second factor in this situation which needs to be touched upon. It certainly was the understanding of those who had most to do with the drafting of the Civil Aeronautics Act that those lines in operation prior to passage of the Act would be granted certificates—almost automatically. It certainly was not the intention of the framers of the Act to eliminate those who were already in business, and it hardly need be repeated here that the Authority was created not to regulate the industry negatively but to give it life, to provide a firm foundation, and to aid—actively—in its growth and development. The industry received its first surprise when extended hearings were held for certificates to prove what everyone already knew—that the lines had been in operation. Even today scarcely more than half of the certificates have been issued and hearings developed into long days of questions about many things not at all germane to the question of route certificates. That there are any certificates as yet unissued is inexcusable except in one or two instances where complicated problems arose.

Airline Feeder may not be the finest route in the country and it may have lost money consistently by virtue of its not having a mail contract. But several of the largest airlines in the country have lost money heavily and not because they didn't have mail contracts. Apparently the Authority believes that Airline Feeder's business during the grandfather period was so small that it cannot justify its economic existence, but there is a question of how paternal the Authority is expected to be in such a case. Airline Feeder had dropped its daily schedules to one day per week because the only authorities it could find in Washington advised the company officials that this was sufficient operation to obtain a certificate—and Airline Feeder was waiting for a certificate to refinance itself and expand its operations with the hope and expectations of carrying mail.

Whether the Authority members actually read the record of the hearing is not known, but it would seem only fair in cases where doubt existed that the Authority would call in the company officials for a full examination of the case. This it did not do. In the face of a general assumption that all grandfather operators would obtain a certificate, it would seem only fair that the Authority would at least grant a hearing, for a printed

record of a hearing conducted by an examiner could hardly be expected to tell the whole story.

What will the Authority do in the case of Marquette Airlines? This operation has no mail contract and it has lost money consistently. Is it a parallel case? If so, the Authority last September or October should have advised all non-mail carrying grandfather operators to file new applications.

Airline Feeder has attempted to determine its status for well over a year. If there are any in Washington who did not know of the financial condition it was not because the company did not seek advice from official sources. The company was encouraged to stay in business because route certificates were "just around the corner." So after spending \$50,000 to "hang on," it is now told that it cannot operate further. If the Authority has objections to certain features of the route, the Authority could have called in the officials for consultation and arranged a plan by which the capital structure could be saved.

This is no time to discourage young men with capital, brains, ability and willingness to serve the public.

Government agencies will ever be a mystery in their methods. They can cut red tape when they want to, they can overlook technical insufficiencies when they desire (and when the flag waves high), and they can consult with and advise petitioners when the mood is right. On the other hand they don't even have to hear a case first-hand if they don't want to. They can even take nine months to say no.

Trans-Atlantic Flying Begins

AFTER years of talking about trans-Atlantic flying, it is somewhat of a shock to read the newspapers and to find huge flying boats actually shuttling back and forth across the ocean with astonishing regularity. The Civil Aeronautics Authority exerted exceptional speed to open the way for Pan American Airways to start its ocean flying before the first of June. Not even a mail pay rate has been established as yet, but the clippers are busily at work carrying sacks of mail between the two continents.

As this is written Pan American has announced the first official passenger flight to be made June 28. Passenger flights doubtless will be made during the summer and early fall, perhaps during the winter via the southern route. We extend our hearty congratulations and good wishes to those who have made trans-Atlantic flying a reality, namely, Juan Trippe, C. V. Whitney, and all of the others who have prepared for so many years.

New Era in Transportation

GENIAL, grizzled Walt Hamilton, one of the most talented and informed experts in aviation, made a statement about the 42-passenger Douglas DC-4 which we believe epitomizes the four-engined airplane better than anything else we have heard. "It is more than an airplane, it isn't even aviation," he said, "it is transportation." (The italics are ours.) Even discounting Walt's exuberance and venture into philosophy by reason, possibly, of his new connection with Douglas Aircraft Company, we know of no better way to describe the DC-4.

We suspect the maiden flight eastward was more historic than many of those who were fortunate enough to be passengers realize. For here, indeed, is a machine of vast proportions and unless one sees the DC-4 standing beside a DC-3 and a Lockheed Electra it is difficult to get the proper contrast. The DC-4 is more than just an over-sized DC-3 (as we all thought two years ago it would be), it is more than just another airplane. For the first time we have a railway car traveling in the air, not carrying just a handful of passengers, but two score. Furthermore, the DC-4 gets in and out of airports with far more ease and maneuverability than the DC-3.

It was our purpose to observe the public reaction and if we are any predictors of public taste, the four-engined airplane is here. The public will demand it. If we had any fears that a cabin containing 40 passengers would be too large, this fear was dispelled on flying from Chicago to New York. From all standpoints it is our humble opinion that the DC-4 (as a type and a symbol) launches a new era in air transportation, a grown-up era which the public will accept with alacrity. To those who take their aviation seriously, the DC-4 is breathtaking, and to us it was one of the greatest of all thrills in an industry packed with exciting and historic events.

In praising the maiden flight of the DC-4 as a public phenomenon of historic importance, we do so with full regard for the greater sensation of flying in the Boeing 314 clippers which, in all truth, are much larger than the DC-4 landplane. But the clippers fly away from the country, not over it, and consequently are out of the vision of ordinary day-by-day life.

CORRECTION

New York City
June 5, 1939

To the Editor:

For the first time I find that AMERICAN AVIATION is not up to date. On page four of the June 1 issue you state as follows:

"Also in the Italian aviation exhibit is a Fiat A.82 18 cylinder double row engine of 1300 hp. which is claimed to develop 1500 hp. at take-off."

Whoever gave you this information did not read the explanation with the engine as this is the engine which powered the Macchi seaplane which obtained the world's record in 1934. At present, I am quite sure that this type of engine is used by the 'high speed school' near Rome, Italy. It is still the lightest and most powerful aeroplane engine available.

A. A. Hartsinck

Assistant U. S. Representative
Royal Dutch Air Lines

Obituary

CLARENCE McARTHUR, young racing pilot and stunter of old-fashioned planes, died in mid-May following injuries received in a hotel fire in Memphis where he had gone to stunt a 1910 Curtiss pusher plane at the Cotton Carnival Air Show. He had flown in several national races.

M. D. KIRKPATRICK, former Wichita, Kan. airplane factory foreman, died in mid-April when his plane crashed into the waters of Orca Inlet near his home at Cordova, Alaska. Founder of Cordova Air Service, Kirkpatrick went to Alaska nearly a decade ago and pioneered in the country's aviation industry.

Burbank, Cal.—Lockheed Flying Club has been organized and is buying a 1938 Taylorcraft. Organized to make flight training available to interested Lockheed employees, the club has 20 charter members and is using Adamsport flying field. Officers are Arthur Tucker, pres.; Andrew Hofer, treas.; Fred Nelson, secy.; Kenneth Page, operations mgr.

Clipper flying is still, and will be for some time to come, a luxury for those who can afford to travel overseas. But the DC-4 is transportation over and about the country, into the interior of a vast nation. People can see it, they can compare its size with other airplanes, they can think of themselves flying on it from one city to another. From the psychological viewpoint also, the Boeing 314 sitting in the water is a disappointment because of the inability to obtain perspective, while the DC-4 is huge no matter whether it is standing on a field or flying overhead.

We are glad that United Air Lines undertook the test flight to the east. United has not had a good break for a long time, and the visits of the DC-4 to cities it serves undoubtedly did much to wipe away the stains of a series of unfortunate accidents. Also, United has contributed much to the development of the DC-4 and it was only proper that it should be able to capitalize on its extensive research and development costs which have contributed to its heavy losses in the past few years. To United for its excellent promotional handling of the DC-4, and to Douglas Aircraft Company for its share in the undertaking, we extend our hearty congratulations. A new era of transportation is on the threshold.

R. G. Thach

ROBERT GORDON THACH has resigned as vice-president and general counsel of Pan American Airways to return to private law practice. He will continue to be closely identified with Pan American policies but has asked to be relieved of executive responsibilities. Few men have been so closely associated with air transportation from its beginnings as Bob Thach. A flying officer with a distinguished record and two decorations in the World War, he played a part in the formation of the Aeronautical Chamber of Commerce and represented as counsel one of the nation's early and important airplane manufacturers. He was attorney for Colonial Air Lines, which was the original Air Mail Route No. 1 between New York and Boston, and was a founder of the present Pan American Airways system. Those who know Thach have the highest regard for his integrity and know the important role he has played in both domestic and foreign air transportation. In whatever direction he now throws his tireless energies, talent and wit, we wish him well.

Canadians Train in the U. S.



No less than 26 Canadian students are currently studying at the Boeing School of Aeronautics, a division of United Air Lines, at Oakland, Cal., in preparation for careers in aviation. They are:

First row—Frank Burgess, airline mechanic course; Lloyd Sloan, airline operations & engineering; and James Olding, E. von Holstein-Rathlou, and Harold W. Donald, airline mechanic & operations course.

Second row—Frank Murray, aircraft sheet metal; G. J. Wilcox, airline mechanic & operations; Geoffrey Rennie, airline mechanic & operations; R. Maxwell Reid, airline mechanic & operations; Andrew J. Jukes, airline mechanic & operations; and George H. Smith, airline mechanic course.

Rear row—Biggerstaff Martin, airline

mechanic & operations course; Alfred Long, airline mechanic & operations; Arthur E. Warren, airline mechanic; Charles F. Wheaton, airline operations & engineering; Robert Halpenny, airline pilot & operations; John C. Cox, special traffic; Fred H. Buller, special; J. Ronnie Roberts, airline meteorology; Ewing Macaulay, airline meteorology; G. H. Sharp, airline mechanic & operations; Richard Keese, airline mechanic & operations; John McPhail, aircraft sheet metal; Fred Pope, airline mechanic & operations; Richard J. Fisher, airline mechanic; and Robert N. McCollum, special instruments course.

McKee Trophy to TCA

P. G. Johnson, vice president—operations for Trans-Canada Airlines, has been awarded the McKee trophy to be held in trust for the line's operating personnel for meritorious service in the advancement of Canadian aviation during 1938. "During the past year, the outstanding event in Canadian aviation was the organization of the Trans-Canada system and the inauguration of a regular air service between Montreal and Vancouver," Defense Minister Ian Mackenzie announced in making the award.

All-Up Air Mail to Iraq

London, June 1—The postmaster general has announced that all first class mail will be sent to Iraq by air as the normal means of transportation at the uncharged rate of 1½d. per half ounce. Mail will be carried on the first section of Imperial Airways' Empire air routes, the flight across the desert from Cairo to Baghdad, in carrying out the new plan.

Perfect Navigator

Misses Destination
by Inches

A case of navigating that was too perfect was reported by an Air Corps lieutenant to the high command in Washington on June 3. The commanding officer asked the lieutenant to explain why he had missed Pawnee, Tex., his destination, on a routine flight from Randolph Field, Tex.

The navigator replied that after checking radio and map, he laid out a flight course to Pawnee, a flight of 61 miles, and flew according to regulations, allowing for the torque, or side pull of the engine. After arriving over the point that should have been his destination, the lieutenant said, "I found that I had passed directly over Pawnee. If I had not been so careful to correct for the torque or if I had not sat so exactly in the center of the cockpit, I would have passed enough to the right or left of Pawnee to have seen it."

Air Post Honors Dead

Air Service Post No. 501, American Legion of New York arranged for a delegation of members to take off on Memorial Day in the Goodyear airship "Rainbow" from Bendix, N. J. in a flight to pay homage to the memory of the dead of the Army, Navy and Marine Air Corps. Some distance off Coney Island the airship stopped and a memorial wreath was dropped to be carried out to sea. The Air Service Post is commanded by Col. Harold Fowler, and the memorial delegation was headed by Col. Charles Wayne Kerwood, member of the Senate Aircraft Investigating Committee and president of the American Section, International League of Aviators. Others in the delegation were Col. Dean Ivan Lamb; Edward R. West; Bernard Ehrlich; Gustave Kersten, L. A. Orlando and William F. Quick.

Choose from the "Cream of the Crop"— BOEING SCHOOL MEN!

Choose your pilots, field passenger agents, radio operators, engine mechanics—or whatever—from the finest products of modern aeronautical training—Boeing School graduates! This modern school, U. S. Gov't-approved in all departments, owned by United Air Lines, trains selected men in 11 serious career courses... 17 modern shops and laboratories, 6 different types of training planes, 30 instructors—small classes. 85% of all Boeing School graduates are employed—by 43 companies! Choose the cream—Boeing School men!

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AERONAUTICS

A DIVISION OF
UNITED AIR LINES

5049, Hangar No. 5
Airport, Oakland, California

In months we shall probably need the following personnel. Please send brief biographies of men likely to be available then.

Name Company

Address

THE C.A.A. RECORD

(Applications, Hearings, Dockets)

CERTIFICATES ISSUED

Boston-Maine Awarded Certificate

Boston-Maine Airways on June 9 was awarded a certificate of convenience and necessity authorizing it to transport mail, passengers and express on AM27, Boston-Caribou via Portland, Lewiston-Auburn, Augusta, Waterville, Bangor, Millinocket, Houlton and Presque Isle, and between Boston and Montreal via Manchester, Concord, White River Junction, Montpelier-Barre and Burlington.

APPLICATIONS

Canadian Colonial Asks N. Y.-Toronto Route

Canadian Colonial Airways on June 5 filed application for a mail, passenger and express non-stop service from New York to Toronto, Ont. Complete story on page 19.

Kansas City Southern Transport Asks Route

Kansas City Southern Transport Co., wholly-owned subsidiary of Kansas City Southern Railway Co., on May 29 filed application with the CAA for permission to conduct mail, passenger and express service between Kansas City and New Orleans via Joplin, Fort Smith, Texarkana, Shreveport, Alexandria and Baton Rouge. Complete story on page 19.

Boston-Maine Files Government Rate

Boston-Maine Airways on June 9 filed a special tariff with the CAA, allowing official government employees a 15% reduction from regular one-way fares.

PAA Companies Ask Certificates

Hearing started June 7 on the applications of Pan American Airways, Inc., Panama Airways (PAA) and Uraba, Medellin & Central Airways (PAA) for certificates of convenience and necessity on numerous South American routes. CAA Examiner F. A. Law presided. Witnesses appearing for the applicant included John C. Cooper Jr., vice president, and George Rihl, vice president. Henry J. Friendly appeared as counsel for Pan Am, and the CAA was represented by Samuel E. Gates and Edward M. Weld.

Pan Am Asks Increased Atlantic Service

Pan American Airways on June 10 filed application with the CAA seeking an increase from two to four in the number of weekly trans-Atlantic schedules authorized. In the trans-Atlantic certificate issued May 19, the CAA limited PAA to two trips weekly, claiming that additional flights might stifle competition by exhausting available U. S. landing rights in Europe. Pan Am claims that four weekly trips, two to France and two to Great Britain, will reduce the cost of the service to the government by one-third.

American Asks Oklahoma City-San Diego Route

American Airlines on June 8 filed its formal application for a route from Oklahoma City to San Diego via Albuquerque, Phoenix and El Centro. American indicated its intention to file for the route several weeks ago.

Braniff Protests AA's Revised Schedule

Braniff Airways on June 5 filed protest with the CAA against an American Airlines revised Ft. Worth-Chicago schedule and the Postmaster General's order placing mail on the flight and authorizing payment therefor. Complete story on page 18.

HEARINGS

Pan Am Oral Argument

Oral argument on Pan American Airways' application for increased air mail rates on FAM14, San Francisco-Hong Kong, was held June 1 before CAA members Harlee Branch, Edward P. Warner and Oswald Ryan. Hearings were held in March, at which time the company requested \$3,680,000 for 52 outbound trips per year plus varying amounts for additional trips. Henry J. Friendly, PAA counsel, told the Authority that the mail rate must be sufficient to attract capital, pointing out that the FAM14 losses have reduced the consolidated income of the PAA system. Samuel E. Gates, chief of the CAA's international division, stated that the Authority should not be called upon to provide an adequate return on the company's entire investment but should merely insure that PAA does not operate at a deficit so that, under honest, economical and efficient management, the company could make a profit. There is some question, he said, as to the efficiency of the FAM14 management at this time, adding that none of the company's officials has flown over the route. Gates maintained that the entire extension and development account claimed by Pan Am should be disregarded in setting the mail pay, and declared that the \$396,000 losses on the Shanghai-Hong Kong route (on which PAA seeks a return) were "decidedly improper."

Northwest New Route Hearing

Hearing was held June 5 and 10 before CAA Examiner F. W. Brown on the applications of Northwest Airlines for new routes from Milwaukee to Twin Cities and from Milwaukee to Marquette. Complete story on this page.

Eastern-National Hearing on Florida Routes

Eastern Air Lines and National Airlines appeared before CAA Examiners C. Edward Leasure and R. J. Bartoo on May 31-June 2, June 6-10 on applications for new routes in Florida. Complete story on page 19.

AA Washington-Chicago Hearing

Hearing was held June 12 before CAA Examiner C. Edward Leasure on the application of American Airlines for permission to inaugurate non-stop service between Washington and Chicago. Hearing was necessary in order to prove that any substantial deviation from AA's route would not adversely affect the public interest. C. R. Smith, president of American, told Examiner Leasure that his company wished to fly direct until its Washington-Chicago route is fully equipped with airway aids, at which time the non-stop operation will be conducted over that route. C. W. Jacob, assistant to the vice president-sales, testified that establishment of non-stop service in the past has tended to increase long-haul business and has not adversely affected local traffic. Hamilton O. Hale appeared as attorney for AA, and John Wanner represented the CAA.

Argument on Eastern's Protest Set

Following an Eastern Air Lines' protest against the May 18 action of the Postmaster General authorizing weight-credit mail on certain new American Airlines New York-Washington trips, the CAA has announced that oral argument will be held June 21 "upon the sole question of the Authority's jurisdiction to review said action of the Postmaster General."

RATES

Mail Pay Recommendation on CAL's Wichita-Pueblo Line

CAA Examiners C. Edward Leasure and R. J. Bartoo on June 10 issued a proposed report recommending that the mail rate on Continental Air Lines' new AM43, Wichita-Pueblo, be 33c per mi. on 300 lbs. of mail or fraction thereof. Complete story on page 17.

Inland Gets Rate Increase

Inland Air Lines on June 9 was awarded a rate of 33c per mi. on AM35, Cheyenne-Huron. Complete story on page 17.

ORDERS

2 Certificate Suspensions Continued

The CAA, which on May 9 suspended for 30 days the student pilot certificates of Roy J. Morris and Samuel Gaglian, has continued such suspension for an additional 30 days "because of the pendency of such proceedings."

Calendar of Hearings

June 12 (in progress June 15), Mid-Continent Airlines, Northwest Airlines, Braniff Airways, on the following respective routes: Minneapolis-Kansas City, Minneapolis-Kansas City and Rochester, Minn.-St. Louis.

June 19—Western Air Express, Great Falls-Lethbridge extension.

June 21—Eastern Air Lines, oral argument on Postmaster General's right to put mail on new American Airlines' Washington-Newark schedules.

Hearing Held on Northwest Airlines' Applications for Two New Routes

Hearing was held June 5 and 9 before CAA Examiner F. W. Brown on the applications of Northwest Airlines for routes between Milwaukee and the Twin Cities via Fond du Lac, Oshkosh, Green Bay, Wausau, Superior and Duluth, and between Milwaukee and Marquette via Fond du Lac, Appleton, Green Bay, Marinette-Menominee and Escanaba.

At the hearing, NWA amended its applications to offer, as an alternative, a single route from Chicago to Twin Cities via Milwaukee, Sheboygan, Fond du Lac, Oshkosh, Green Bay, Marquette, Ironwood and Duluth.

Statements in favor of granting the applications were made by Congressmen Frank E. Hook (D. Mich.), Frank B. Keefe (R. Wis.), Joshua Johns (R. Wis.), and Fred Bradley (R. Mich.) and by the secretary of Sen. Alexander Wiley (R. Wis.). Appearing for municipalities were R. A. Saltzstein, Sheboygan; William Peterson, Fond du Lac; Allan Abrams, Wausau; H. P. Westerfelt, Menominee-Marquette and Escanaba; A. D. Murphy, Green Bay; L. J. Fromen, Fond du Lac, and F. S. Keiser, Duluth.

Keiser told Examiner Brown that Duluth favored the applications but opposed any route which operated from Duluth to Milwaukee via Marquette on the grounds that the traffic gained would not justify the increased mileage. Marquette could be given airline service by a shuttle route to Duluth or by extending Penn-Central's Detroit-Sault Ste. Marie line, he stated. The city of Duluth is on record as being ready to improve its airport if NWA's applications are granted, he added.

Croll Hunter, president of NWA, testified that Lockheed 10A's will be used on the routes and that total operating costs during the first year are estimated at 50c per mi., increasing to 58c by the fifth year. The increase

will be due to higher labor and material costs, he explained. The 50c estimate for the first year is conservative, Hunter said, pointing out that past experience has shown direct operating costs to be 28.5c and other costs 22.7c per mi. A passenger load factor of 38% is expected the first year, increasing to 42% the fifth year.

Testimony given by V. V. Sugg, Post Office Inspector at Chicago, indicated that the cities south of Green Bay are generally progressive, while north of Green Bay the towns are not as prosperous due to a diminishing lumber industry. With daylight schedules, Marquette will be the only community receiving outstanding benefit from plane service, because mail will reach the other towns nearly as fast by train, Sugg said.

H. A. Hook, chief of projects and surveys in the CAA's bureau of federal airways, testified that operations will have to be conducted during daylight hours because of lack of lighting and radio facilities. Field and lighting equipment will cost approximately \$395 per mi. to install, he said, adding that necessary radio stations would cost \$244,000. Cost of maintaining lighting facilities will be \$60 per year per mile, and radio stations \$85,000 per year, he stated.

Opposition to the applications was received from the cities of Sheboygan and Manitowoc, but was withdrawn after NWA amended to include a stop at Sheboygan on its Chicago-Milwaukee-Marquette-Duluth-Twin Cities alternate.

Francis Butler appeared as attorney for Northwest and Hubert Schneider represented the CAA's economic compliance division.

Will Establish Airport

Red Bank, N. J.—Samuel Schneider will maintain two charter planes to carry passengers & students at the airport he expects to establish just off the Lakewood highway. Schneider is a pilot at Floyd Bennett field.

In 1928, A FLIGHT...In 1939, A FLEET!



ON JUNE 20, 1928 a single fledgling transport inaugurated Braniff's first 247-mile flight. Today, a fleet of Braniff's B-Liners links all the air lines of a continent with 24 connecting flights daily!

Thus, Braniff celebrates its 11-year march of time . . . by creating extra time for American business in the 5-Billion-Dollar Empire Market of the Great Southwest.



CAA Increases Inland Air Lines' Mail Pay on AM35 to 33c Per Mile

Company Was Receiving 19.875c, Asked 35c; Decision Criticizes Carrier's Management, Fiscal Policy

In a decision which thoroughly discussed the management and fiscal policy of the carrier, the CAA on June 9 ordered that the fair and reasonable rate for the carriage of mail on Inland Air Lines' AM35, Cheyenne-Huron, should be 33c per mile on and after Oct. 17, 1938, the rate to apply on 300 lbs. of mail, or fraction thereof, plus 2.5% of such sum for each additional 25 lbs. It was the CAA's second rate decision.

Inland had applied for 35c per mi. on AM35, asking that the rate be made retroactive to Aug. 22, 1938. The company now receives 19.875c per mi. Direct airport-to-airport mileage is to be used under the CAA's decision instead of base mileage.

Inland's losses from Apr. 17, 1938 to Dec. 31, 1938 were \$50,101.76, the CAA's opinion states. "One of the major causes of petitioner's reported operating losses on AM35 and the main problem with which its management is still faced is a deficiency of passenger revenues," the decision said, adding that "petitioner has only been engaged in passenger operations on the route since May 4, 1938, and it seems reasonable to believe that the traffic potentialities have not yet been fully developed."

With regard to the company's impaired financial condition, the CAA said, "The impairment in financial condition resulted largely from management action and only to a minor extent from operating losses." On June 30, 1935, Inland had current assets of \$83,210 and current liabilities of \$38,776, while on Nov. 30, 1938, these amounts were \$56,630 and \$108,782, respectively. Such impairment in financial condition does not in itself show need for higher rates, without a full inquiry into fiscal management and operating and accounting practices, the CAA said.

In June, 1937, Inland received \$35,000 cash from the sale of its Denver-Pueblo line, the opinion stated, and during the same month declared and paid a cash dividend of \$21,661. The next month the company received \$209,000 cash from the sale of its Denver-Cheyenne route. In August, Inland was awarded a mail contract for AM35 and made commitments and contracts for new equipment totaling \$100,000. Despite this, the opinion said, the company retired for \$128,503 cash, the entire issue of preferred stock and accumulated dividends before Jan. 1, 1938, leaving an unpaid federal income tax charge of \$30,532 still on the books at the time of the rate hearing.

"It thus appears that the total capital stock outstanding at Nov. 30, 1938, was \$112,203 par value common stock (\$100,000 of which was bonus and \$12,203 of which was issued for cash), as compared with \$150,104.95 in cash returned to stockholders, and \$50,000 in 3-year 4% notes issued in June, 1938 upon the declaration of a dividend on the bonus common stock," the CAA said.

"It is clear that the retirement of the preferred stock and the payment of dividends were only made possible by the cash proceeds realized by petitioner from the sale of AM17 (Pueblo-Cheyenne)," the opinion continued. "It seems to us that a carrier using proceeds from the sale of one of its air mail contracts for the retirement of stock to the extent of 100% of the actual investment recognized at the time of issuance, and for the payment of dividends, should not immediately thereafter succeed, in total disregard of its own action, in showing 'need' with respect to another of its air mail operations, particularly where no provision was made to improve its depleted working capital or to meet a substantial federal income tax liability."

Discussing equipment, the CAA said, "In view of the low passenger load factor and the small mail loads, petitioner's 10-place Boeing equipment, even though the best suited to its operating needs at the time of its acquisition, is obviously larger than the present needs of the service require. It is clear that the efficient and economical operation of petitioner's services either the attracting of a substan-

tially increased passenger traffic or the maintenance of a constant search for suitable aircraft of smaller capacity and greater economy."

Disagreeing with the company on overhaul accounting practices, the opinion said, "It appears from data of record that petitioner's accounting policy has resulted in the accrual of excessive aircraft overhaul reserves and a consequent charging of excessive amounts to overhaul expenses. The record also indicates a building up of excessive engine overhaul reserves and a consequent overloading of engine overhaul expenses account."

The CAA also disagreed with Inland's forecast of future revenues and expenses, which indicated that a mail rate of 40.17c per mi. would be needed to break even. "Although the petitioner does not seek a mail rate which would bring operating revenues to immediate balance with operating expenses, we are unable to accept the total operating expense figure which petitioner has estimated as the level to which total operating revenues must be brought in order to result in a so-called 'break-even' operation," the Authority said. "The projection of petitioner's past inflated expense levels into its operating expense estimates, and the inclusion of a number of additional expenses, have resulted in a forecast rate of increased operating expenses which appears to be unreasonably high."

EAL Directors Meet

The board of directors of Eastern Air Lines met May 29th in Indianapolis, presided over by Capt. Eddie V. Rickenbacker president, who is also president of the Indianapolis Speedway which staged the annual automobile races Memorial Day. Those attending the meeting were Harold S. Vanderbilt, Laurence S. Rockefeller, John H. Phipps, Paul H. Brattain (v.p. and general traffic manager), George B. Howell of Tampa, William Barclay Harding of New York, Wiley L. Moore of Atlanta, Edward C. Romfh of Miami, S. L. Shannon (operations manager), Paul M. Davis of Nashville and Stuyvesant Peabody of Chicago. Thomas Armstrong, secretary-treasurer, also attended. Many in the group flew to Indianapolis in a special chartered plane.

Delta Chief Pilot



George Cushing
Chief pilot of Delta Air Lines and recognized as one of the most experienced airline pilots in the industry. He flies the Atlanta-Fort Worth route. (Staff Photo)

Mail Pay of 33c on CAL's Wichita-Pueblo Route Recommended

The proposed report of CAA Examiners C. Edward Leasure and R. J. Bartoo on June 10 recommended that Continental Air Lines be paid 33c per mile on its new route AM43, Wichita-Pueblo. The rate, which is to apply on 300 lbs. of mail, or fraction thereof, is 6c less than the 39c per mi. requested by the company.

Continental also had asked that the 39c rate apply on 100 lbs. or fraction thereof, plus 2.5% of such payment for each additional 25 lbs. The company pointed out that under a 300-lb. provision, there would be no opportunity to earn a bonus, due to the fact that mail loads would not approach 300 lbs.

The examiner's report stated that with the present rate of 33 1/3c per mi. on AM29, Denver-El Paso, the company is making an operating profit of 5.21c per mi., adding that CAL's estimate indicates that an average rate of 33.34c for AM29 and 43 is needed to break even. The report criticized as somewhat too high CAL's estimates of engine overhaul and depreciation charges and expressed the opinion that the estimate for traffic and advertising expense appears to be excessive.

SALES CONVENTION

American's Department Members Meet in Chicago for 3-Day Session

Members of American Airlines' sales department gathered in Chicago on June 7-9 for the annual sales convention. Speakers included C. R. Smith, pres.; Charles A. Rheinstrom, v.p.-sales, who was in charge of the convention; Ralph S. Damon, v.p.-operations; M. T. Stallter, in charge of mail & express; Hugh L. Smith, operations mgr.; C. R. Speers, dist. sales mgr., NY; Gage Mace, asst. operations mgr.; Howard Kurtz, supt. of reservations and ticket offices; J. H. Theilig, mgr. of agency and foreign dept.; Melvin D. Miller, sales supervisor; V. J. Long, treasury; T. W. Brooks, stations supervisor; A. R. Bone, asst. to v.p.-sales; Edward G. Bern, publicity director.

C. W. Jacob, asst. to v.p.-sales; Paul Watson and P. P. Willis, Ruthrauff & Ryan; Leonard Raymond of Dickie Raymond; Norman Wilding, T. J. Dunlon, v.p. and treas.; William Littlewood, v.p.-engineering; O. M. Mosier, v.p.; H. K. Rullison, asst. treas.; Victor Vernon, personnel director; Newton K. Wilson, supervisor of passenger service; Frank Ware, asst. maintenance supt.; Roy Mitchell, asst. operations mgr.

Richter Gets NAA Honor

Paul E. Richter, executive vice president of TWA, on June 2 was named the outstanding contributor to aviation in Kansas City, Mo. by the KC chapter of the NAA. The surprise ceremony in Richter's office at Municipal Air Terminal was headed by Robert R. Lester, the chapter's president, who gave him the trophy on which the award was inscribed. Present were the following members of the NAA chapter: Dr. Glenn E. Willhelmy, Lee Bishop, Lou E. Holland, Charles D. Dally, Clarence Mooney, John N. McLucas, William Green, Lee Swigart, James C. Shelton Jr.

Inland Surveys Route

Following authorization of officers of Inland Air Lines to prepare & file with the CAA an application for extension from Great Falls, Mont. to Lethbridge, Canada, plans were made by R. Leferink, pres., to retain special legal advisors and make survey trips of the proposed route. Decision for the route was reached at the board of directors meeting held at Casper, Wyo. J. B. Walker, general traffic manager, made a trip to the Shelby and Cutbank area of Montana to check possibilities of a stop at one of the points. Mr. Leferink and M. W. Landes, vice pres., spent several days in Denver conferring with interested parties and working out details of the plan.



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This famous skyway is unsurpassed for winter sunshine—nature-made for all-year flying. And it's shortest coast-to-coast!

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Tomlinson Is New TWA Chief Engineer; Other Shifts Are Announced

D. W. Tomlinson, TWA engineer and research pilot, has been appointed chief engineer for the line, Paul E. Richter, executive vice-president, has announced. A statement from L. G. Fritz, vice-president-operations for TWA, reported the appointment of J. A. Collings, superintendent of the line's eastern operations division at Chicago, to system superintendent of operations with headquarters at Kansas City.



Collings

Bartels

As chief engineer, Tomlinson will be in charge of TWA's newly established engineering department where he will have supervision of research development and engineering activities. He is known for the stunt flying of his earlier days in the Navy when he was a member of the Navy Highhat Squadron and leader of the three Sea Hawks.

Collings succeeds S. D. Welch, who has been transferred to Los Angeles as flight superintendent. J. S. Bartels, flight superintendent at Chicago, is new superintendent of the eastern division, succeeding Collings. T. W. Ashford, Newark flight superintendent, has assumed the same position at Chicago, and S. W. Jacques, pilot, replaces Ashford at Newark.

MCA Opens Omaha Office

Mid-Continent Airlines has opened a downtown traffic office in Omaha in the Athletic Club Bldg. Robert V. Blank, district mgr., said the office is justified because business is considerably ahead of last year. W. R. Lynn is Omaha sales representative, and Miss Evelyn Watherston is office secretary.

New TWA Hostesses



Selected from 400 applicants were these newcomers to TWA's staff of 75 hostesses. Upper left is Alice F. Getz, of Mineral, Ill., upper right; Olga Mazur of Edwinstown, Pa. Lower left is Marie A. Sheracy, of Ellsworth, Pa., and lower right, Bethlea Rutherford of Anthony, Kan. All four have passed final exams and seven more are in training.

CAA Denies Airline Feeder System's "Grandfather" Certificate Application

The CAA on June 10 denied the application of Airline Feeder System for a certificate of convenience and necessity on its route from Newark to Westfield, Mass., via Bridgeport, New Haven and Hartford, finding that the company's service during the "grandfather" period had not been adequate and efficient to the traffic demands.

The decision, which was a complete reversal of the examiner's recommendations in the case, stated that during the "grandfather" period, AFS had scheduled 14 round trips and that eight of the trips, carrying 11 revenue passengers had been completed. These operations produced revenue of \$105.25 against operating costs of \$18,930.37, the Authority noted.

Because American Airlines carried 1,396 persons between Newark and Hartford during the period, the CAA found groundless AFS's contention that its service was adequate and efficient to the traffic demands. AFS had contended that it had not developed traffic because of its financial inability to maintain promotional activities, and that its service was adequate to such demand as existed. The CAA opinion states that the company only made connections once a week at Newark, none at Hartford.

Hearing on AFS's application for a certificate was held Dec. 5 before CAA Examiner R. J. Bartoo, with American Airlines appearing as protestant. On Jan. 4, Examiner Bartoo issued a proposed report recommending a certificate for AFS. "It is clear that service operated during the period May 14 to Aug. 22 was conducted with no expectation of recovering even out-of-pocket costs occasioned by that service," Examiner Bartoo said. "Applicant's unsatisfactory financial condition and the fact that little traffic was carried are considerations in determining whether there is any economic justification for the route, but do not prove that the service rendered was inadequate and inefficient."

Exceptions to the proposed report were filed by John Wanner, CAA attorney, and Hamilton O. Hale, counsel for American. Wanner stated that "it

may be true that applicant's poor financial condition and small volume of traffic did not cause the service to be inadequate and inefficient. It may nevertheless be true, however, that applicant's poor financial condition and small volume of traffic were the effect of inadequate and inefficient service and therefore are evidence of inadequate and inefficient service. The service was in fact inadequate and inefficient. . . . Applicant, therefore, is not entitled to a certificate of convenience and necessity."

Crane Hits Decision and Procrastination

Richard T. Crane, president of Airline Feeder System, Inc., issued the following statement June 13 following denial of the company certificate by the CAA:

"The unfortunate decision of the Civil Aeronautics Authority must be received with the solemnity warranted by so serious a verdict and all it implies. It is a disheartening blow to the industry with its forward looking policy of normal and inevitable development of air travel of every description and contingent training of pilots and personnel, development of equipment, and the national defense. It is a blow to the industry's confidence in the new Authority.

"This present decision of the Authority indicates a necessary adjustment of the attitude toward them by the industry and by all those who believe in and work for a better understanding between communities of the United States and the world in general which air travel affords by annihilating time. Regardless of the reason for this decision, there is no reason which was unknown when the hearing was allowed by the Authority or even when the application was accepted by them. There is no reason justifying this inexplicable delay. When the reason for this decision is made known, then one can discuss it with reference to actual facts involved and then it may be understood by all concerned."

Braniff Protests American's Revised Ft. Worth-Chicago Mail Schedule

Braniff Airways on June 5 filed a protest with the CAA against a revised American Airlines Fort Worth-Chicago schedule, which became effective June 1, and against the May 26 order of the Postmaster General authorizing mail and payment therefor on such flight. Braniff called the revised schedule an unfair and deceptive practice under section 411 of the Civil Aeronautics Act and asked for an investigation.

The protest followed closely similar Eastern Air Lines' action against American, taken May 27, when EAL disputed the May 18 order of the Postmaster General placing weight-credit mail on new AA schedules between Washington and New York.

Braniff stated that AA now leaves Ft. Worth at 4:42 pm., arriving Chicago at 11:13 pm., using DC-3's, whereas before June 1, the times were 1:17 pm. and 7:48 pm., respectively. Braniff leaves Ft. Worth at 4:27 pm., arriving Chicago at 11:20 pm., using DC-2's. This Braniff schedule "has been the best patronized of the applicant's services, and applicant has necessarily depended upon this most favorable trip to produce revenues in excess of costs of operations, which revenues have been required for the continued operation of less profitable trips," the protest states.

"Applicant has inquired of the Post Office Department whether its services have been deficient or unsatisfactory in any respect and has been advised by the P. O. that its services have been wholly satisfactory and are generally regarded as efficient and adequate."

"American Airlines has already engaged in newspaper advertising calling attention to its larger equipment and has otherwise solicited traffic for its

revised schedule in a manner designed to detract from the operations of this applicant and from its revenues. To meet such methods of competition this applicant would have no choice but to purchase larger equipment than that which it now uses, which equipment it denies is needed to adequately serve the needs of the public, but which equipment would cost this applicant several hundred thousand dollars, and which would require this applicant to petition this Authority for increased rates in order to consummate its purchase and engage in its operation.

"American Airlines, by its revised schedule, denies to the traveling public the convenience of travel on well-spaced schedules throughout the day, which convenience was best provided for by the schedules which American maintained prior to June 1, 1939."

Heads Association



Wayne L. McMillen of American Airlines has been elected president of the Junior Association of Commerce of Chicago for the year 1939-40. McMillen, holder of a doctor's degree from the University of Illinois, has been with AA for the last four years.

Airline Personnel

New apprentice station agents employed by American include the following: Crawford W. Cline, based at Buffalo; Lorin Randall, Springfield, Mass.; Walter W. Kistler, Erie, Pa.; Jack W. Stewart, Newark; Paul R. Davis, Washington; Albert A. Butler, Washington; Douglas H. Fraser, Newark; Keith E. Maloney, Washington; E. S. Walden, Boston.

I. S. Randall, eastern manager for TWA in New York, has been elected 1st vice president of the Sales Executives Club of N. Y.

New employees in PAA's western division in Brownsville are Ruth Mason, accounting; Carita Hart, operations; Ira A. Lyons, F. E. Anderson, I. H. Rucker, J. O. Gunter, W. C. Milligan, D. M. Munoz, Hughes Turnbow, Willy Luna, R. N. Jordan and G. C. Singer, maintenance.

Dr. George J. Kvidera has been appointed assistant to Col. A. D. Tuttle, M.D., medical director of United, and is functioning as a member of Col. Tuttle's staff at the company's medical dept. in the Chicago headquarters building.

Four first officers of American recently promoted to the rank of captain are D. K. Smith, Daniel W. Machlin and Frank Herdich, Newark, and W. J. McCray, Ft. Worth.

Pan Am's new employees in the NY offices are Grace Burgess, George White, F. Brauchle and Miss Foster. In the traffic dept., P. Skeffington and David R. Taylor have been transferred to NY from Miami. Taking John O. Thayer's place in the express traffic is George Olsen. Anthony Adesso has been placed in charge of the photostatic dept., and Bernard O'Hara has been employed in the mail room.

Formerly of the NY counter staff for United, Carl Murray has been made an outside salesman.

EAL Takes Larger Quarters

Eastern Air Lines has leased from Charles F. Noyes Co. larger quarters in the General Motors Bldg. at 1775 Broadway, New York. Negotiations were handled by Edward V. Rickenbacker, president & general manager of EAL.

LEGAL PRECEDENT

PAA Granted Right of Other Common Carriers in Land Condemnation

Tallahassee, Fla.—For the first time in the history of American courts an airline has been granted the status of other common carriers as the result of a majority decision by the Florida supreme court. By the decision the right of Pan American Airways Inc. to acquire land by condemnation was upheld. The court upheld a Dade County circuit court ruling giving PAA title to Dinner Key Base at Miami with compensation to the owners fixed by a jury of \$135,000. Judgment had been appealed by Central Hanover Bank & Trust Co.

On the growth of air commerce, the decision written by Justice Elwyn Thomas said: "If by the appropriation of private property, stag lines, railroads, ferries and the like were made possible, their routes more direct and their facilities more effective, it seems to us that such method should not be denied a great transportation industry, although now in comparative infancy."

Circuit court's decision was appealed by the bank as trustees for owners of the land involved. This was the appeal denied when the supreme court upheld the circuit court decision.

U. S. Pilots in Europe

Four American pilots recently sailed for Amsterdam to join the flying staff of KLM, Royal Dutch Airlines, which operates both on the Continent and to the Dutch East Indies. The pilots are: Maurice A. Marrs, R. A. McMakin and Warner O. Bunge, all formerly with United Air Lines; and John Rose, formerly with TWA.

K.C. - New Orleans Line Asked by Kansas City Railroad Subsidiary

Kansas City Southern Transport Co., a wholly-owned subsidiary of Kansas City Southern Railway Co., on May 29 filed application with the CAA for permission to conduct mail, passenger and express service between Kansas City and New Orleans via Joplin, Fort Smith, Texarkana, Shreveport, Alexandria and Baton Rouge.

The transport company, which has been operating motor trucks and a small express business since Mar. 25, 1933, proposes to buy three new 14-passenger Lockheed Super-Electras at a total cost of approximately \$255,000. The company has an authorized capitalization of \$25,000, "but in contemplation of the service herein proposed will, if the application is approved, increase its authorized capital to \$300,000, which will be paid in cash in the event the authorization herein sought is granted," the application states. The railroad is beneficial owner of the applicant's entire capital stock.

"The Kansas City Southern Railway is financially able to subscribe and pay cash for the proposed increase in capital stock of the applicant and to assist the applicant in any necessary financing by guaranteeing payment of securities," according to the application.

The transport company states that it will lose \$5,230 (after depreciation and before interest) during the first year and \$2,382 the second year. From the third to fifth years, profit will be \$267, \$2,915 and \$5,564, respectively. Operating expenses are figured at 40c per mile for 560,000 miles per year and mail revenue is calculated at 33 1/3c per mile.

Officers of the company are given as W. N. Deramus, president, Kansas City; G. B. Wood, vice-president-traffic, Kansas City; C. Huffman Lewis, vice-president, Shreveport; W. S. Wilkinson, secretary, Shreveport; and J. M. Salter, treasurer, Kansas City. Current assets of the Kansas City Southern Railway as of Dec. 31, 1938 were \$4,195,751.83, against current liabilities of \$2,792,555.04.

Person-to-Person



Mechanic William Walker demonstrates the use of a movable telephone by which he can talk from underneath a United Mainliner to the pilot within the cockpit. The innovation recently was inaugurated at Oakland by UAL. In addition to the telephone apparatus, the cart carries a fire extinguisher and auxiliary light.

CAA Holds Eastern-National Hearing on New Florida Routes

An eight-day hearing was held May 31-June 2, June 6-10, before CAA Examiners C. Edward Leasure and R. J. Bartoo on the applications of Eastern Air Lines and National Airlines for new routes in Florida. Eastern seeks Jacksonville-Tampa-Miami and Tallahassee-Ocala-Orlando routes, while NAL has applied for Daytona Beach-Jacksonville and Jacksonville-Lakeland.

Capt. Eddie Rickenbacker, president of EAL, testified that his company desires to furnish "adequate service" to the west coast of Florida, adding that EAL's applications will further expedite the long-haul business from all points of the country to Florida. Passengers from the west will especially benefit if the applications are granted, he stated, pointing out the EAL's present "dead ends" at Tampa, Tallahassee and Atlanta will be eliminated, permitting a greater use of equipment. The routes sought will permit the completion of many Miami schedules during the winter when there is fog at Jacksonville. Capt. Rickenbacker said, explaining that EAL will be able to offer routings either down the east or west coast of Florida. Statistics concerning Jacksonville cancellations were given by Joseph George, company meteorologist.

Because of lack of connections at Tampa, EAL's AM10, Chicago-Jacksonville line, is performing service which AM40, Atlanta-Tampa, Tallahassee-Memphis, was designed to perform, according to Paul Brattain, EAL vice president and general traffic manager. He claimed that traffic studies show Miami to be the logical terminal of AM40, adding that the route cannot adequately or economically serve its designed purpose until such an extension to Miami is made. The Jacksonville-Tampa-Miami line sought by EAL will make possible a through route from northern points to Tampa, and will provide a fast express service, Brattain said. Additional revenues derived from the proposed routes, plus savings to the company through elimination of dead-ends, plus increased service into Miami, will more than offset increased expenses, he stated.

Presenting National's side of the case, G. T. Baker, president of the company, testified that if the applications are granted, only four planes will be necessary, whereas six will be required if NAL is forced to continue its present divided operation. A connection between the company's AM31 and AM39, which would be afforded by the Daytona Beach-Jacksonville line, would permit much more economical operations, Baker said. He revealed that the company has acquired a Lockheed for \$22,100 and has issued between 8,000 and 10,000 shares of stock at \$2.50 per share.

D. G. Bash, vice president-treasurer of National, stated that his traffic studies show a greater need for more transportation service between St. Petersburg-Tampa and Jacksonville than between the same area and Miami. He also submitted a forecast of revenues and expenses, incorporating the new routes requested, for the fiscal years ended June 30, 1940, through 1944. The estimates show that NAL expects losses of \$10,964 and \$902 during 1940-41, and profits of \$9,122, \$19,147 and \$29,172, respectively, during the three subsequent years. C.

H. Ruby, NAL pilot, presented a statement signed by all company pilots, expressing the opinion that all NAL schedules should be routed into Jacksonville for maximum efficiency. A connection between the company's AM31 and 39 would allow schedules which would greatly reduce pilot fatigue, he added.

Witnesses presented by the CAA's economic compliance division included Capt. J. E. Whitbeck, air transport engineer; H. A. Hook, of the bureau of federal airways, and Fred Gilbert, chief of the analysis and research section. Charles P. Graddick, Post Office superintendent of air mail, also testified.

Statements in favor of all applications were made by Sen. Claude Pepper (D., Fla.), Sen. Charles Andrews (D., Fla.) and Congressman Joe Hendricks (D., Fla.). The following persons represented municipalities at the hearing: Judge A. R. Carver, Lakeland; J. L. Gresham, Daytona Beach; F. C. Hillyer, Jacksonville; G. Wayne Gray, Orlando; Robert G. Wemple, Ocala; Paul B. Fuller, Montgomery, Ala.; Asa Rountree, Alabama director of aviation; F. P. Carpenter, Jr., Memphis; M. M. Frost, Tampa; C. L. Morris, Miami; Fred Hosea, Miami; Jack Gray, Atlanta; B. A. Moore, Charleston, S. C.; J. Adams Bruce, president of a Tampa fruit juice company, testified in behalf of EAL's applications.

Gerald Brophy, George Spater and Smythe Gambrell appeared as counsel for Eastern, while William I. Denning and John Cross represented National. George Neal and Hubert Schneider were the CAA lawyers.

Canadian Colonial Asks NY - Toronto Non-Stop Service

Canadian Colonial Airways Inc., on June 5 filed application with the CAA for permission to carry mail, passengers and express in scheduled foreign air transportation non-stop between New York and Toronto, Ont.

The company stated that it plans to use a DC-3 in day and night, visual contact, instrument or over-the-top operations. A DC-3 or a DC-2 will be held in reserve. Tentative schedules show departure from New York at 10 am., arriving Toronto at 12:35 pm.; leaving Toronto at 4 pm., arriving New York at 6:25 pm.

Net profit after depreciation for each of the first five years is estimated at \$11,528.43. Mail income, figured at \$1.20 per mile one-way, is \$151,210.80 per year, and passenger revenue is \$88,206.30 per year.

H. O. Hale Marries

Hamilton O. Hale, attorney for American Airlines, recently married Miss Loraine Van Vliet, stewardess for the same company. Hale, a graduate of the Northwestern University law school, is located in Chicago and makes frequent trips to Washington to handle America's CAA hearings and applications.

Seven United Graduates



Seven latest graduates of United Air Lines who have begun to fly on line are shown above (left to right): La Vergne Jacqueline Jos, Oak Park, Ill.; Lillian D. Rogers, San Francisco; Alice D. Pamp, Evanston, Ill.; Bernadine L. Stocks, Decatur, Ill.; Helen M. Huff, Newark; Marjorie E. Toole, Savery, Wyo.; Martha B. Schumacher, La Porte, Ind.

AA Orders Five More DC-3's as Douglas Co. Completes 200th Ship

Delivery of five additional Flagships purchased from Douglas Aircraft Co. on an original order of 10 by American Airlines has been announced by C. R. Smith, AA president. This order of DC-3's brings Douglas equipment of American to a total of 53 planes, continuing the line in its role of the largest user of Douglas transports.

Completion of the 200th DC-3 was celebrated at the Santa Monica, Cal. plant of the Douglas company on June 1. The transport was christened the Flagship "Oklahoma City" by Mrs. Mary Briggs, postmaster of Los Angeles. The ship was to be delivered to the line in Tucson, Ariz., where it was to begin transcontinental service.

America's new transports are powered by twin 1,110-hp. motors. The line has flown Douglas planes more than 35,000,000 miles to date, or a total of 425,000,000 passenger miles.

Howes, Graddick Tour Pan Am

First Assistant Postmaster General W. W. Howes and Charles P. Graddick, P. O. superintendent of air mail, left Washington June 9 on an inspection tour of Pan American Airways' routes in the West Indies and Central America. Leaving Miami on June 11, the P. O. officials were to make stops at Havana, Cristobal, Mexico City and Brownsville. From Brownsville they were to fly to Los Angeles for the postmasters' convention June 20. Main purpose of the trip is to study Pan Am's methods of handling mail as compared to the domestic airlines.



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Martin Honors 25th Anniversary of Dutch East Indies Airforce

Glenn L. Martin, aircraft manufacturer, on May 25 presented a silver plaque to Netherlands Minister Dr. A. Loudon, commemorating the 25th anniversary of the establishment of the Royal Netherlands Indies Army's air force. The plaque is to be forwarded to the commandant of the air force at Bandoeng, Java.

The first Martin plane was sold to the Netherlands in 1914 and, together with a number of later training planes, was used in the initial organization of the East Indies air force. On Mar. 9 of this year, the Royal Netherlands Indies Army took delivery of its 100th Baltimore-built Martin plane.

The plaque, signed by Mr. Martin, states: "In deep appreciation of a relationship which we have enjoyed for a quarter of a century, the Glenn L. Martin Company presents this plaque to the Airforce of the Royal Netherlands Indies Army on the occasion of its 25th anniversary." At the top of the panel is a reproduction of a 1914 Martin model S, and a 1939 model WH3A is at the bottom.

Besides Mr. Martin and Dr. Loudon, the following persons attended the presentation, which took place at the Netherlands Legation, Washington: Flight Capt. H. G. B. de Kruijff van Dorsen, who inspects Netherlands planes at the Martin plant before shipment abroad; Count van Rechteren, counselor of the legation; Capt. Ranneft, naval attaché, and E. Zimmerman, East Indian trade commissioner.

Carr's Resignation Reported

News dispatches from the west coast report that Gardner Carr, president & general manager of Menasco Manufacturing Co., Los Angeles, has resigned from his position. The Menasco company builds in-line, liquid cooled engines, including the "Unitwin."



Glenn L. Martin, right, in the above photo, presenting silver plaque to Netherlands officials in commemoration of the 25th anniversary of the Royal Netherlands Indies Army's air force. Close up of plaque is shown at left.



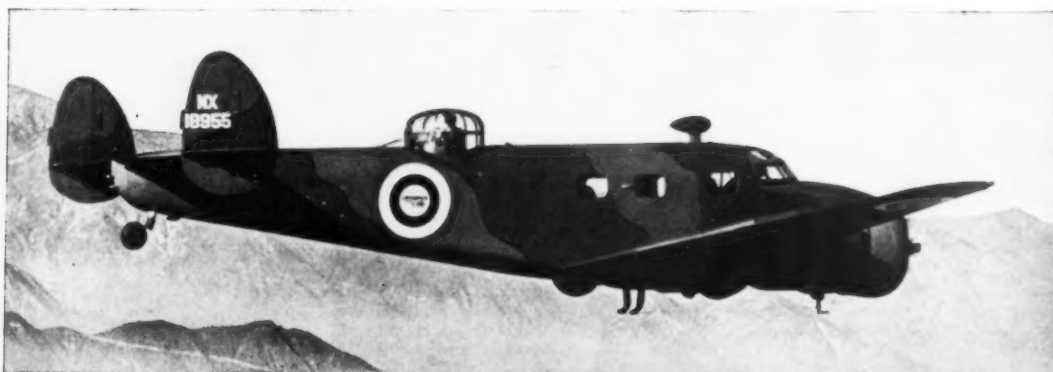
Gillies Sells 2 Grummans
Gillies Aviation Corp., Hicksville, L. I., sales agents for Grumman aircraft, has announced sale of two more Grumman G-21A amphibians to Asiatic Petroleum Corp., making a total of five Grummans owned & operated by the company.

Eichhammer Sales, Ad Mgr. for Monocoupe

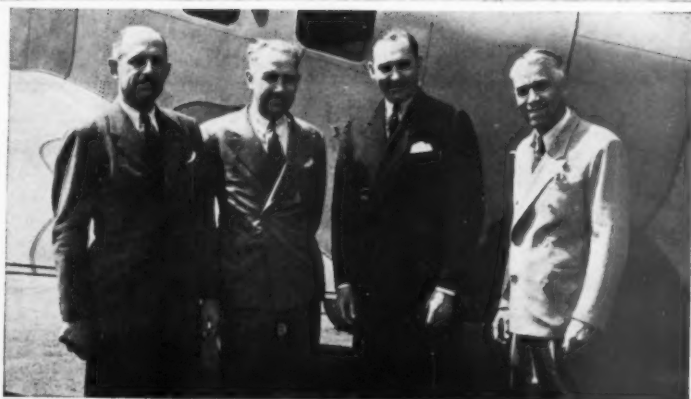
Clare Bunch, president of Monocoupe Corp., Robertson, Mo., has announced the appointment of H. Eichhammer as sales and advertising manager for the firm.

Eichhammer, who was sales manager of Fairchild Aircraft Corp., Hagerstown, Md., began work with Monocoupe on June 1 and accompanied Bunch to the Birmingham National Air Carnival on June 3-4.

Lockheed Goodwill Plane and Crew



Shown in the lower photo is the plane's crew: (l. to r.) James W. Fisher, radio operator; E. C. McLeod, pilot; Carl B. Squier, sales manager and navigator for the flight; Ed Cruz, mechanic.



Vultee Honors Carroll

Don I. Carroll who has served Vultee Aircraft Div. of Aviation Manufacturing Corp., Downey, Cal., successively as sheet metal foreman, general foreman, asst. production mgr., asst. supt., supt. and factory mgr., his present position, was honored by the company recently on his fifth anniversary as a Vultee employee.

Vega Co. Announces Stunkel's Appointment

Vega Airplane Co., Burbank, Cal., on June 9 made official announcement of the appointment of Reagan Stunkel to its executive staff through Mac Short, Vega president, who said Stunkel will be in charge of inspection and service for the company.

Stunkel has been superintendent of maintenance for Braniff Airways at Dallas for the last two years. Previous to that he was assistant maintenance head of Delta Air Lines and from 1931 to 1936 served as chief of maintenance for Bowen Air Lines.

Braniff announced early in May Stunkel's resignation to take a position with Lockheed Aircraft Corp. (AMERICAN AVIATION, May 15).

In his new position Stunkel will be closely affiliated with the manufacturing and field operation of Vega planes, made by the Lockheed subsidiary, the first model of which—a six place, Unitwin-powered low-wing monoplane—is nearing completion.

Don Luscombe Out; Torrens Replaces Him

I. H. Torrens is the new president of Luscombe Airplane Corp., West Trenton, N. J., having replaced Don Luscombe who resigned in April.

A new building extension at the company's plant which doubled capacity, includes a boiler room and paint shop.

Corporation's balance sheet, as of Dec. 31, 1938, showed assets at a ratio of 3 to 1 over liabilities.



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Structural Failure of Wings, Tail Surfaces Caused Boeing 307 Crash

Air Safety Board's Recommendations Urge That All Future Civil Aircraft Be Inherently Spin-Proof

With the recommendation that all future civil aircraft be "inherently spin-proof," the CAA's Air Safety Board on June 1 stated that the probable cause of the Boeing 307 Stratoliner crash was "structural failure of the wings and horizontal tail surfaces due to the imposition of loads thereon in excess of those for which they were designed, the failure occurring in an abrupt pull-out from a dive following recovery from an inadvertent spin."

The crash, which occurred Mar. 18 near Alder, Wash., killing all 10 persons aboard, is described in the Board's 60-page report as "test flight No. 19." Frank E. Caldwell, chief of the ASB's investigation section, was in charge of the field investigation, and Fred Glass, chief of the examiners section, was legal adviser and conducted the hearings.

In describing events leading to the crash, the report states: "At 1:12 p.m., a radio message was transmitted from NX19901 to the Boeing Aircraft Co. radio station located at Seattle, which message gave the position of the aircraft as being between Tacoma and Mount Ranier at an altitude of 11,000 ft. Some two or three minutes later, while flying at a comparatively slow rate of speed in the vicinity of Alder, the aircraft stalled and began to spin in a nose down attitude. After completing two or three turns in the spin, during which power was applied, it recovered from the spin and began to dive. The aircraft partially recovered from the dive at an altitude of approximately 3,000 ft. above sea level, during which recovery it began to disintegrate."

"Outboard sections of the left and right wings failed upward and broke entirely loose from the aircraft. Major portions of the vertical fin and portions of the rudder were carried away by the wing wreckage. The outboard section of the left elevator separated from the stabilizer and both fell to the ground detached. The right horizontal tail surface, being held on by the fairing along the top surface and also by the elevator trim tab cables, remained with the fuselage. The No. 1 engine nacelle also broke loose from the aircraft and fell to the ground separately. The main body of the aircraft settled vertically and struck the ground in an almost level attitude both longitudinally and laterally at a point approximately 1,200 ft. above sea level. . . . Parachutes of either the seat or chest type were available for all persons aboard the aircraft though were not being worn at the time of the accident."

In addition to recommending that all aircraft be designed to eliminate critical stall characteristics and be inherently spin-proof, the board, in 12 other recommendations, called upon the Authority to make the following studies: investigate the mass balancing of the 307's control surfaces to determine its adequacy before issuing a type certificate; study prevention of flutter in control surface tabs on all planes by proper mass balancing of these units or by satisfactory mechanical means in the event of lag or failure in the operating mechanism; study factors causing flutter and vibration of aircraft structures, minimum requirements to be included in the Civil Air Regulations; study the 307's tail group to determine the adequacy of attachment fittings of both fixed and movable component parts; study the 307's stall and spin characteristics by flight and other tests to determine effectiveness of its design in the prevention of critical stalls and spins, and if results are unsatisfactory recommend corrective measures before issuance of a type certificate.

Other recommendations asked the CAA to develop an adequate stall warning device, which should be a required installation on all air carrier

aircraft; require extensive wind tunnel tests on scale models of all ships designed for air carrier service, and test spin characteristics of such planes in a spin-tunnel; investigate tendency in certain large aircraft designs to so reduce the forces required to operate the controls as to permit undue stresses being imposed inadvertently on the plane; study the adequacy of mechanism used on the 307's adjustable cockpit windows, particularly as to the mechanism's satisfactory functioning under severe icing conditions and the visibility provided under such circumstances; consider advisability of increasing present maneuvering-load-factor requirements for large planes; investigate adequacy of differential between 307's design level speed, placarded "never-exceed-speed," and design gliding speed, to give reasonable assurance that the plane can be controlled within these design limits under adverse flying conditions and that loads beyond its designed structural strength will not be imposed under operating conditions in turbulent air.

Continuing, the board recommended that the CAA require determination of design loading for tail surfaces on a basis which takes into account the definitely calculated effect of gusts and maneuvers on the total loads imposed and their distribution; require as a provision of experimental certificates that a V-G recorder be installed on ships intended for air carrier use, the record to be made part of the flight test report and submitted to the CAA; require an accelerometer to be installed during all test flights and to be a required installation on all air carrier aircraft; attempt to develop an adequate vibration recorder, and require aircraft manufacturers to install them, making data obtained part of test flight record; establish by regulation uniform and more adequate test flight procedures for air carrier planes, such procedures to include complete stalls from straight-away flight and high angle sideslips both in turbulent air and under conditions of unsymmetrical power; establish a special rating for test pilots of large planes and require all test flights prior to issuance of a type certificate to be conducted by pilots holding such certificates.

Subsequently to the board's report, Boeing Aircraft Co. released a statement which stated, in part, as follows: "The Stratoliner was, at the time of the accident, and still is, in the middle of a highly comprehensive test program, involving maneuvers of all sorts and operations under all varieties of conditions. We are now continuing this flight test program with the second Stratoliner, and we sincerely believe that the plane will prove to be an exceptionally safe airplane. . . . Out of every accident lessons are learned, and the CAA doubtless intends to apply any lessons learned from the Stratoliner accident not only to this airplane but to all airplanes."

"In connection with the Stratoliner accident it should be pointed out that the maneuvers which were being made prior to the accident were test maneuvers, as distinguished from normal flight operations, and it should be kept in mind that present-day tests are more all-inclusive and more extreme than those of the past, for the very purpose of making airplanes even safer. In accordance with the company's established practice, any modifications in the Stratoliner that we may find desirable as a result of the tests already conducted, or the further exhaustive tests yet to be conducted, will be incorporated in the airplane as the test program proceeds."

Fairchild Withdrawal

Fairchild Aviation Corp. has withdrawn its registration statement filed with the SEC recently for 40,000 shares of \$1 par common stock, because "the present level of security prices is such that the undersigned does not believe it can obtain a satisfactory price . . . at this time."

CAA BUYS 18 PLANES

Waco, Fairchild Receive Contracts Totalling \$167,448; More Purchases Soon

The CAA has awarded contracts to Waco Aircraft Co. in the amount of \$105,328.00 for eight 4-place 300-hp. planes, and to Fairchild Aircraft Corp. totaling \$62,120 for 10 2-place 145 hp. ships. Five of the Wacos are for the Air Safety Board, three for the CAA, and all 10 Fairchilds are for the CAA.

Additional contracts totaling \$165,364 for the CAA, \$18,000 for the airport section, and \$144,750 for the Air Safety Board are expected to be awarded in the near future. Among the companies to receive contracts will be Harlow, Stinson, Piper, and Fleetwing, the latter company's plane being an amphibian for use in Alaska.

AERO STANDARDS SOUGHT

Manufacturers Favor International Agreements for Engines, Parts, Fittings

Plans for standardization among international aircraft manufacturers, particularly engine makers, will be furthered at a proposed meeting which will be held late in July or early August. It was announced following a meeting in May of the engine technical committee of the Aeronautical Chamber of Commerce. It was said that all manufacturers are in favor of an international agreement on standards for engines, parts and fittings since it would lighten burdens on American manufacturers in servicing aircraft sold abroad.

To give the aircraft industry an organization similar to the SAE in the automotive industry also would be of public interest inasmuch as it would make planes safer, unify regulations of countries and provide for exchange of experience. Logical man in the Aero Chamber to carry on preliminary investigation toward the desired end is said to be Robert W. Ayer, manager of the technical dept. His work would be correlated with that of Acting Chief Jack Gray of the CAA's aircraft airworthiness section and A. A. Vollnecke, maintenance assistance in the department. Another whose aid would be sought is Fowler Barker of the ATA.

American Armament Into Aircraft

A registration statement filed with the Securities & Exchange Commission for 265,000 \$1 par shares indicates American Armament Corp., manufacturer of bombs, ammunition and other arms, expects to use about \$20,000 of proceeds for additional engineering on a new type pursuit plane and \$55,000 for construction of the prototype. An aerial cannon already developed will be mounted on the plane, issuer states. If it is decided to put the craft into production, arrangement will be made with some existing aircraft manufacturer.

Delivery Flight—5,750 Mi.

The Consolidated 28 recently purchased by the British Air Ministry for experiment purposes will be flown from San Diego, Cal. to Felixstowe, England, early in July by an American crew. The flying boat will be flown non-stop San Diego-Botwood, 3,300 mi., and non-stop Botwood-Felixstowe, 2,450 mi. Total mileage will be 5,750 mi.

Elected CCA Director

Canadian Colonial Airways Inc. has elected John Parker of Auchincloss-Parker and Redpath to the board of directors following the resignation of J. H. Missett.

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PARKS. "The Air College of Higher Learning," has always been much more than "a place to learn to fly." Parks training is based on a program of intensive education, theoretical as well as practical, so as to fit men for leadership in commercial aviation today.

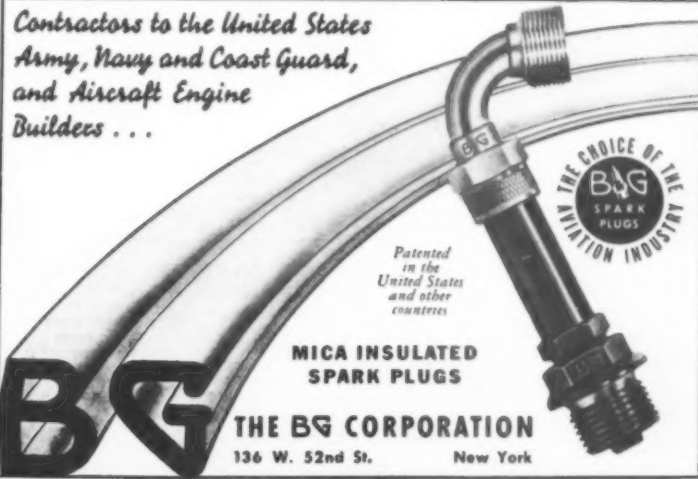
The excellent placement record of Parks graduates is positive proof of the thoroughness of their training, their progress in the industry is evidence of its practical value.

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Contractors to the United States Army, Navy and Coast Guard, and Aircraft Engine Builders . . .



Aviation Mfg. Corp. Plans Expansion; Liquid Cooled Engine Being Developed

Expansion and development at plants of Stinson, Vultee and Lycoming Divisions of Aviation Manufacturing Corp. is planned with proceeds from a stock offering by Aviation Corp., parent of Aviation Manufacturing, according to a registration statement covering 925,917, \$3 par shares. Of the total, 650,793 shares are being offered through warrants to stockholders other than Aviation & Transportation Corp., (parent of Aviation Corp.) Unsubscribed shares will be offered at market through underwriters, Schroder Rockefeller & Co. Inc., and Emanuel & Co.

Net proceeds will be used essentially as follows: \$500,000 to repay in full a 6-month loan from Aviation & Transportation Corp., which was made to furnish working capital to the three divisions. Of the total loan, \$200,000 was advanced to Vultee Aircraft Div., \$25,000 to Aviation Manufacturing Corp.'s home office, \$25,000 to Lycoming Div., and the balance will be advanced to Aviation Manufacturing before proceeds of this stock issue are available. Remainder of proceeds will be advanced for various divisions. Plans are outlined as follows:

Vultee: A new engineering structure, an experimental building, a new wind tunnel, improvements to adjoining flying field and "substantial additions to plant facilities and machinery" are contemplated. Division's engineering force has been "greatly increased in the last 6 months", making studies of several new types of ships.

Stinson: A new engineering building is expected to be constructed, and purchase of additional plant facilities will be made. The June production schedule calls for 60 planes. Market and engineering analyses are under way on other models of aircraft and the engineering staff has been enlarged "to further extend activities."

Lycoming: New machinery and equipment to produce hollow steel propeller blades are under consideration and expenditures will make possible further development of Lycoming's liquid-cooled engine, the registration statement reveals. The new motor, described briefly as a "high horsepower liquid-cooled, horizontally opposed engine of advanced design," has just completed its 50-hour Air Corps acceptance tests and negotiations are now being conducted for continuing this develop-

ment. Lycoming Div. also has taken over activities of Smith Engineering Co., Aviation Manufacturing Corp. subsidiary, for manufacture of propeller hubs, although only smaller hubs are now produced. The division is machining forgings for Curtiss-Wright propeller hubs from order from Curtiss Propeller Div. The new hollow steel propeller blade recently developed "has advantages over other blades now on the market," company officials believe. The 8-ft. 8-in. blades for controllable propeller hubs have received type certificates, and the 8-ft. 5-in. blades in fixed pitch hubs now are under test by the Air Corps at Wright Field. Blades of the same type are being designed in larger sizes. Production on some of these blades should be started before the end of the year, it is asserted.

TWO-YEAR AGREEMENT

Rogers Signs With Bellanca at \$1,000 Monthly; Washington Office Opened

Leighton W. Rogers, formerly president of the Aeronautical Chamber of Commerce, has signed an employment agreement with Bellanca Aircraft Corp. for two years, at a salary of \$1,000 a month, according to data filed with the Securities & Exchange Commission. His appointment as a Bellanca vice president was reported recently. At the end of the first year he will have an option to purchase within one year 5,000 shares of unissued capital stock at \$11.50 a share, and at the end of the second year may purchase all or part of 5,000 additional shares at \$13.50 each. The agreement may be terminated by either party at any time after the first year, upon 90 days' notice.

Rogers had opened a Washington office in room 829, National Press Bldg., and will be in charge of sales to U. S. and foreign governments. His assistant is L. Kenneth Swiger, who was formerly connected with the Chamber.

Continental Motors Corp.

Net profit of \$15,430 is announced by Continental Motors for quarter ended Apr. 30. Net loss in preceding quarter was \$141,064, and loss in April quarter of 1938 was \$29,693. In the 8 months ended Apr. 30, loss was \$126,234. Apr. 30 backlog was about \$2,800,000.

GOVERNMENT CONTRACTS

(Awards of \$10,000 and Over)
Release Date Shown

AIRCRAFT

Ryan Aeronautical Co., San Diego, Cal., 6/8, primary training airplanes, \$6,380 (War).
St. Louis Aircraft Corp., St. Louis, Mo., 6/8, primary training airplanes, \$10,663 (War).
Waco Aircraft Co., Troy, O., 6/8, primary training airplanes, \$7,175 (War).

ENGINES, PARTS, ACCESSORIES

Hayes Industrial Inc., Jackson, Mich., 5/27, wheel & brake assy., \$44,138 (War).
Follak Mfg. Co., Arlington, N. J., 5/27, adapter assy., \$13,800 (War).
Wright Aeronautical Corp., Paterson, N. J., 5/27, engine parts, \$21,007.02 (Navy).
Wright Aeronautical Corp., Paterson, N. J., 5/27, engine parts, \$37,243.37 (Navy).
Curtiss-Wright Corp., Curtiss Propeller Div., Clifton, N. J., 5/27, hub & booster assy. & voltage boosters, \$94,627 (War).
Breeze Corps. Inc., Newark, N. J., 5/27, fuel mixture indicator assy., \$58,500 (War).
Weston Electrical Instrument Corp., Newark, N. J., 5/27, indicator assy., \$37,968 (War).
Pioneer Instrument Co. Inc., Bendix, N. J., 5/27, signal assy., \$11,200 (War).
United Aircraft Corp., Pratt & Whitney Aircraft Div., East Hartford, Conn., 5/23, spare engine parts, \$303,436.06 (War).
Bendix Aviation Corp., Eclipse Aviation Div., Bendix, N. J., 5/26, energizer assy., inertia starter, \$12,645 (War).
Pittsburgh Screw & Bolt Co., Pittsburgh, Pa., 5/26, propeller blade assy., \$10,500 (War).
United Aircraft Corp., Hamilton Standard Propellers Div., East Hartford, Conn., 5/26, propeller blade assy., \$12,722.40 (War).
Scintilla Magneto Div., Bendix Aviation Corp., Sidney, N. Y., 5/31, magneto assy., \$30,373 (War).
Steel Products Engineering Co., Springfield, O., 6/6, propeller hub assy., \$18,429 (War).
Eclipse Aviation Div., Bendix Aviation Corp., Bendix, N. J., 6/7, hand & electric inertia starters, \$20,178 (Navy).
Eclipse Aviation Div., Bendix Aviation Corp., Bendix, N. J., 6/3, cartridge starters, \$10,506 (Navy).
United Aircraft Corp., Hamilton Standard Propellers Div., East Hartford, Conn., 6/3, parts, \$48,984.92 (Navy).
Wright Aeronautical Corp., Paterson, N. J., 6/3, oil strainers, \$87,880 (War).
S. F. Bowser & Co. Inc., Ft. Wayne, Ind., 6/3, fuel meters, \$32,610 (Navy).
Kollsman Instrument Co. Inc., Elmhurst, N. Y., 6/3, altimeters, \$28,050 (Navy).
United States Gauge Co., New York, N. Y., 6/3, gage assy., \$26,287 (War).
Curtiss-Wright Corp., Curtiss Aeroplane Div., Buffalo, N. Y., 6/8, spare parts & material for modification of aircraft, \$1,117,811.59 (War).
United Aircraft Corp., Pratt & Whitney Aircraft Div., East Hartford, Conn., 6/8, engines, \$164,062.50 (War).
United Aircraft Corp., Pratt & Whitney Aircraft Div., East Hartford, Conn., 6/10, engine parts, \$28,056.60 (Navy).
Fleetwings Inc., Bristol, Pa., 6/10, cylinders, \$10,807.50 (Navy).
Eclipse Aviation Div., Bendix Aviation Corp., Bendix, N. J., 6/10, starters, switches, \$44,056 (War).
Pump Engineering Service Corp., Cleveland, O., 6/10, vacuum pump assy., \$63,675 (War).

MISCELLANEOUS

Pioneer Instrument Co. Inc., Bendix, N. J., 6/10, oxygen regulator assy., \$52,325 (War).
Warwick Mills, New York, N. Y., 6/8, mercerized cotton airplane cloth, \$188,020 (War).
Fairchild Aerial Camera Corp., Jamaica, L. I., N. Y., 5/23, aircraft camera filter units, mount assy. & cone assy., \$74,759.35 (War).
Apple Manufacturing Co., Dayton, O., 5/23, tow target assy., \$94,676.24 (War).
Cheney Brothers, Manchester, N. H., 5/23, parachute silk, \$61,740 (War).
Westinghouse Electric and Mfg. Co., Washington, D. C., 5/25, services & materials, \$39,916.96 (Navy).
Cine Laboratories, New York, N. Y., 5/26, conversion of cameras, aircraft, type A-1, to type A-1A, 27,248 (War).
Shell Oil Co. Inc., San Francisco, Cal. and St. Louis, Mo., 5/26, aircraft engine fuel, grade 100, \$13,033.80 (War).
Blackhawk Mfg. Co., Milwaukee, Wis., 5/27, hydraulic airplane jack assy., \$23,900 (War).
Service Tool and Engineering Co., Dayton, O., 5/27, aircraft instrument testing sets, \$21,800 (Navy).
Banner Die Tool & Stamping Co., Columbus, O., 5/31, bomb rack assy., \$39,600 (War).
Shell Oil Co. Inc., New York, N. Y., 6/3, engine fuel, \$39,114 (War).
Walter Kidde & Co. Inc., New York, N. Y., 6/3, oxygen cylinder assy., \$61,280 (War).
C & R Engineering Co., O'Fallon, Ill., 6/3, laboratory, helium purification, \$15,546.78 (War).

Soucek With Maxson

Appointment of Z. Soucek as vice president in charge of the newly created controls department of W. L. Maxson Corp. has been announced by W. L. Maxson, president. Mr. Soucek recently resigned as executive sale engineer for Eclipse Aviation Div. of Bendix to accept the new position. Prior to joining Eclipse in 1929, he was superintendent of the Navy's aeronautical engine laboratory at Philadelphia.

Harlow Changes SEC Statement

After denial by Tufts-Edgcomb Inc. that it had ordered 24 planes, Harlow Aircraft Corp. revised text of a portion of its registration statement to the SEC explaining: "Certain so-called 'orders' for airplanes, not enforceable by legal action, and amounting to no more than expressions of opinion as to possible distributor requirements for the ensuing year, have been received... together with so-called 'franchise agreements' relating to distributor rights and obligations. The franchise agreements may be canceled by either party on 15 days' notice and provide that upon such cancellation all orders for airplanes not shipped prior to receipt of notice of such cancellation shall also be canceled."

Barkley-Grow Stock Change

Barkley-Grow Aircraft Corp. reports to the SEC that since Feb. 28 (1) an outstanding option for 195,000 Class A shares has been canceled; (2) 130,000 Class B shares of \$1 par, originally issued in exchange for intangibles, have been canceled (sum of \$130,000 has been eliminated from "intangible assets" in balance sheet); (3) authorized capital stock on May 11 was changed to 300,000 shares, \$1 par common. Each Class A share was changed into 1/10 of 1 share of common. Balance sheet of Feb. 28 shows total assets of \$461,431.67; current assets of \$207,842.64; current liabilities of \$330,098.66.

Bellanca Stock Sale

Report to the SEC shows that as of May 15 there were 224,750 shares of Bellanca Aircraft Corp. \$1 par common stock outstanding, as against 174,750 shares on Dec. 31. As at May 15, Tobey & Co. had taken down 50,000 shares at \$8.50 per share and now may purchase 50,000 additional shares at \$8.50 within 180 days of effective date of registration statement (effective Feb. 17 as of Feb. 12). Net proceeds of \$317,000 are expected to be used as follows: \$40,000 for notes payable; \$40,000 to purchase plant equipment; \$100,000 for designing, developing and demonstrating 2 types of all-metal military aircraft; \$137,000 for manufacturing capital.

Preliminary Statistical Report for the Month of Feb. 1939. Post Office Department Figures May 23, 1939

Carrier	Route Length (Miles)	Miles of Service Performed	Pound-Miles Performed		Payments to Carriers certified by Department	
			Total	Per Cent of Whole	Total	Per Cent of Whole
United Air Lines	5,123	733,578	372,473,608	30.51	269,138.41	21.94
TWA	3,800	472,889	186,342,099	15.27	169,140.89	13.80
Northwest Airlines	2,409	285,931	73,355,208	6.01	89,901.46	7.34
American Airlines	6,768	838,676	274,474,291	22.49	260,546.05	21.26
Eastern Air Lines	4,518	463,642	192,033,797	15.73	138,401.29	11.29
Braniff Airways	2,283	200,312	33,969,024	2.78	56,599.42	4.62
Western Air Express	1,349	167,905	35,392,731	2.90	55,957.34	4.57
Pennsylvania-Central	1,733	126,153	17,344,677	1.42	37,151.08	3.03
Inland Air Lines	1,151	68,984	2,132,858	.17	19,743.10	1.61
National Airlines	872	52,472	3,589,065	.29	12,122.11	.99
Chgo. & Southern	910	95,500	12,845,513	1.05	31,515.00	2.57
Delta Air Corp.	1,096	94,345	10,106,372	.83	27,399.29	2.24
Mid-Continent	1,132	71,235	3,859,139	.32	23,745.00	1.94
Boston-Maine	631	42,925	719,279	.06	14,308.33	1.17
Continental Air	725	49,292	1,727,848	.14	16,430.66	1.34
Inter-Island	359	13,720	345,626	.03	3,430.00	.27
Grand Total	34,879	3,777,559	1,220,711,135	100.00	1,225,529.43	100.00

REVENUE PASSENGER MILES FLOWN Air Transport Association Tabulation

	1938	1939	% change from corresponding previous record
January	27,110,800	34,457,270	27.09
February	26,155,235	31,046,932	18.7
March	34,565,609	44,474,656	28.67
April	37,929,046	47,496,757	25.23
	125,760,690	157,475,615	25.22

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TAPER or
STRAIGHT

Maxfield Promoted by TWA; Douglas Appoints Hamilton

The promotion of William Maxfield as superintendent of maintenance for TWA with headquarters in Kansas City, Mo., succeeding Walter A. Hamilton, who resigned effective June 1 to become chief of field service for Douglas Aircraft Co., Santa Monica, Cal., has been announced by Jack Frye, TWA president.

Maxfield 20 years ago was maintenance foreman for the Air Corps at Salt Lake City in the first transcontinental air service, serving with the Air Corps until 1927 when a commercial airline took over the air mail operation between San Francisco and Chicago. He remained with the line a few months and became officer in charge of maintenance for the California National Guard.

Later he became maintenance superintendent for Western Air Express, TWA predecessor company. In 1930 he was transferred to TWA when that company was formed and inaugurated the first transcontinental passenger service across the U. S. He had been assistant maintenance superintendent of the line since 1930.

Hamilton's appointment to the post with Douglas is effective June 1, it was announced by Donald W. Douglas, president, "We are happy to have Mr. Hamilton join this organization and bring to it his vast experience and ability," Maj. Carl A. Cover, general manager and senior vice president-sales, said in discussing the appointment. "As airline representative Hamilton watched and helped in the construction of the first Douglas transports in our plant several years ago. We believe his technical abilities and qualifications will be a valuable asset to this company and to airline operators wherever Douglas products are used," he added.

Hamilton's start in aviation dates back to 1925 when Frye, Paul Richter, executive vice president of TWA, and Hamilton were officers of Aero Corporation of California, pioneer aviation company of the west. Announcing his resignation from TWA, Frye said: "Mr. Hamilton desired to make the change because he believed there was a greater opportunity for application of his inventive abilities offered by the widespread design and manufacturing activities of the Douglas company."

TWA Borrows \$300,000

According to data filed with the SEC, Transcontinental & Western Air Inc. on Apr. 11 borrowed \$300,000 from the Commercial National Bank & Trust Co., New York City, issuing therefor 17 promissory notes dated Apr. 10. An aggregate of \$70,000 principal amount of such notes was then negotiated by Commercial National to another bank. Notes for \$100,000 mature Oct. 1, 1939, and notes for \$50,000 mature on each of the following dates: Apr. 1, 1940; Oct. 1, 1940; Apr. 1, 1941; Oct. 1, 1941. Net proceeds were used to pay a portion of purchase price of 3 new Douglas DC-3 transports, bought in April.

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So. Cal. Backlogs At \$107,000,000

Los Angeles, June 1—A survey of four Southern California aircraft plants made today for AMERICAN AVIATION reveals a total backlog of \$107,000,000 and a payroll approximating 18,500 as follows:

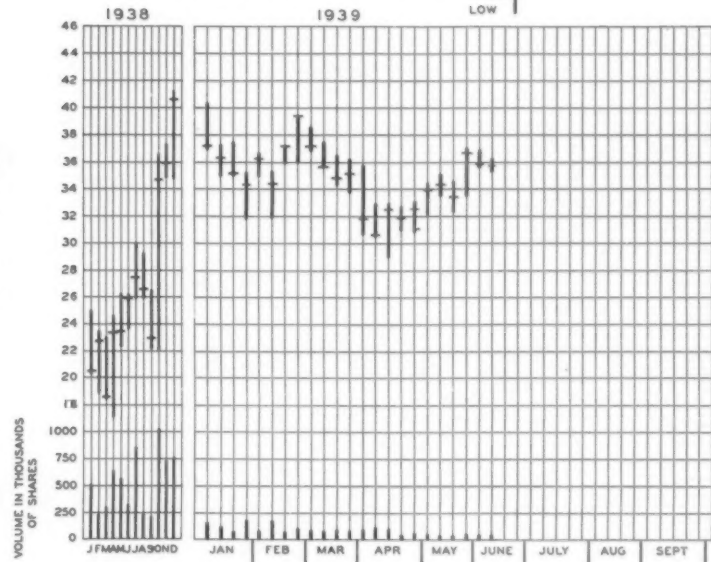
Douglas Aircraft Co., Inc., backlog \$50,000,000 (America's largest); 6,500 men, with a producing capacity of 150 planes a month. Payroll is expected to touch 12,000 by fall.

Lockheed Aircraft Corp., backlog \$35,000,000; 7,000 men, with a capacity estimated at 50 planes a month. Company's payroll currently represents the largest single industrial unit west of the Mississippi, and the number of workers will increase to 7,500 by midsummer.

Vultee Aircraft Div. of Aviation Manufacturing Corp., backlog estimated at \$2,000,000; payroll is about 1,000 men. Production is 25 heavy or 50 lighter planes a month. Majority of the workers are engaged in experimental work. Normal force is closer to 2,000.

North American Aviation Inc., has unfilled orders of about \$20,000,000, is employing about 4,000 men, and is geared to produce 200 planes a month. At present, it is working at approximately half-speed, however.

WEEKLY AVIATION AVERAGES



Aviation Stock Comments

Chart Data Supplied by Wyckoff Associates Inc.,
Comments by Philip P. Friedlander

Doubt has been expressed by many that the aviation stocks as a group can continue to lead the forward march parade. The contention has been that, while the rest of the market has exhibited underlying strength with the "blue chips" evidencing investment demands, the aviations, have not only failed to make any headway, but in many cases have declined in value.

The action of the group has been forecast by the chart. Little time was spent in building up a base, and having made good the indicated objective on the upside, coupled with the fact that supply was in evidence in the 37-38 zone, it was natural that the group should act in such an inglorious manner.

More important that what has taken place is to understand what lies ahead. Technically, here is every reason to

believe that the aviations should go through a period of "lining out." The rallies and reactions establishes definite trading areas, designating for the students the new support and supply zones. If carefully marked, these places will reap desirable benefits for the trader.

Just where the averages will establish a trading area is for the next few weeks to tell.

Some of the second quarterly statements of the larger companies may not show up as well as anticipated. This will be due to the necessity of re-tooling the plants to take care of the larger orders that have now piled up. The issuance of these financial reports may have a temporary influence and might be just the background necessary to establish the base desired by the technician.

NEW YORK STOCK EXCHANGE

Week Ended May 27					Week Ended June 3					Week Ended June 10				
	High	Low	Net Change	Sales		High	Low	Net Change	Sales		High	Low	Net Change	Sales
American Airlines	5 1/2	5 1/8	+ 1/8	9,200	5 1/2	5 1/8	— 1/8	5,700	5 1/4	5 1/8	— 1/8	5 1/4	— 1/8	3,000
Aviation Corp.	24 1/2	22	+ 1/2	30,900	24 1/2	23 3/4	— 1/4	11,700	24 1/4	23 1/4	— 1/2	23 1/4	— 1/2	9,400
Bendix Aviation	24 1/2	20 1/2	+ 2 1/2	20,500	23 1/2	22 3/4	— 3/4	5,600	23 1/2	22 1/4	— 3/4	22 1/4	— 3/4	4,700
Boeing Airplane	22 1/2	19 1/4	+ 2	8,100	21 1/2	20 1/2	— 1/2	3,300	20 3/4	19 3/4	— 1/2	19 3/4	— 1/2	5,900
Consolidated Aircraft	21 1/2	21	+ 3/8	8,200	21 1/2	21	+ 1/8	18,200	21 1/2	21	— 1/4	21	— 1/4	5,200
Continental Motors	5 1/2	5 1/8	+ 1/8	37,300	5 1/2	5 1/8	— 1/8	10,400	5 1/2	5 1/8	— 1/8	5 1/8	— 1/8	17,300
Curtiss-Wright	27	25 3/4	+ 1 1/8	17,300	27	26	— 1/8	6,100	27 1/2	25 1/4	— 1/8	25 1/4	— 1/8	9,800
Curtiss-Wright A	71	63 1/4	+ 8 1/8	24,500	70 1/8	68 7/8	— 1 1/8	8,300	70 1/8	68	— 1/8	68	— 1/8	6,400
Douglas Aircraft	16 1/8	14 1/2	+ 1 1/8	24,400	16 1/8	15 1/2	— 1/8	6,900	16 1/2	15 3/8	— 3/4	15 3/8	— 3/4	6,600
Eastern Air Lines	19 1/4	16 1/2	+ 1 3/4	1,900	19	18	— 1/2	1,800	18 1/2	17 1/2	+ 7/16	17 1/2	— 1/16	1,900
Ex-Cell-O	36 1/4	33 1/4	+ 3	40,000	35 3/4	34 1/2	— 1/2	18,300	34 1/2	33 1/2	— 1/2	33 1/2	— 1/2	16,600
Glenn L. Martin	10 1/2	9 1/8	+ 1/8	3,300	10	9 3/4	— 1/4	500	10 1/2	10	— 1/2	10	— 1/2	1,200
Natl. Aviation Corp.	16 1/2	15	+ 1 1/2	26,500	16 1/2	15 3/8	— 1/8	9,300	16 1/2	15 1/2	— 1/2	15 1/2	— 1/2	9,800
Pan American Airways	12 1/2	12	— 1/8	2,800	12 3/4	12 1/4	— 1/8	6,200	12 1/2	12 1/4	— 1/8	12 1/4	— 1/8	4,000
Sperry Corp.	44 3/4	41 1/4	+ 3	20,500	43 1/8	42 1/4	— 1/8	1,700	44 1/2	42 1/2	+ 1 1/2	42 1/2	+ 1 1/2	13,500
Thompson Products	23	19 1/2	+ 3 1/2	3,100	23 1/2	22 1/2	— 1/2	700	24 1/8	22 3/4	+ 1 1/8	22 3/4	+ 1 1/8	2,800
TWA	8 3/4	8 1/8	+ 1/8	3,800	8 1/2	8	— 3/8	1,700	8 5/8	8	— 1/8	8	— 1/8	2,900
United Aircraft	39 3/8	36 1/4	+ 2 1/2	20,400	39 1/4	37 1/8	— 1/8	7,300	37 3/8	36 1/2	+ 1/4	36 1/2	+ 1/4	11,600
United Air Lines	10 3/4	9 1/2	+ 1 1/2	9,700	10 1/8	10 1/8	— 1/8	6,100	11	10 1/4	+ 3/8	10 1/4	+ 3/8	6,700
Wright Aeronautical	106	95	+ 7	320	103	102 1/2	— 1/2	30	102	100	— 2 1/2	100	— 2 1/2	120

NEW YORK CURB EXCHANGE

Week Ended May 27					Week Ended June 3					Week Ended June 10				
	High	Low	Net Change	Sales		High	Low	Net Change	Sales		High	Low	Net Change	Sales
Aero Supply A	4	3 7/8	+ 1/8	500	4	3 7/8	— 1/8	500	4	3 7/8	— 1/8	3 7/8	— 1/8	400
Aero Supply B	7 1/4	7 1/4	— 1/8	200	7 1/4	7 1/4	— 1/8	200	7 1/4	7 1/4	— 1/8	7 1/4	— 1/8	200
Air Associates	1 1/2	1 3/8	— 1/8	500	1 1/2	1 3/8	— 1/8	1,000	1 1/2	1 3/8	— 1/8	1 3/8	— 1/8	200
Air Investors	28	23 3/8	+ 3 3/8	5,300	28 3/8	27	— 1 1/8	3,800	28 3/8	27	— 1 1/8	27	— 1 1/8	700
American Airlines	2 1/2	2 1/4	+ 3/8	4,100	2 1/2	2 3/8	— 1/4	1,100	2 1/2	2 1/4	— 1/8	2 1/4	— 1/8	4,000
Aviation & Transp.	8 3/8	7 1/8	— 1 1/8	2,400	7 7/8	7	— 1 1/2	1,000	7 1/2	7	— 1/2	7	— 1/2	1,600
Bell Aircraft	24 1/2	22 1/2	+ 1 1/2	2,800	23 3/4	23	— 1 1/8	700	24 1/4	23	— 1 1/4	23	— 1 1/4	400
Bellanca Aircraft	7 1/8	6 3/4	+ 1	2,800	7 1/2	7	— 3/8	700	7 1/8	7	— 1/8	7	— 1/8	200
Breeze Corps	4 1/2	4 1/4	+ 1/8	2,000	4 1/2	4 1/8	— 1/8	1,800	4 1/2	4 1/4	— 1/8	4 1/4	— 1/8	1,200
Brewster Aero	9 3/8	7 1/2	+ 1 3/4	13,500	9 3/8	8 1/2	— 1 1/8	3,300	8 3/8	8 1/2	— 1/8	8 1/2	— 1/8	1,900
Canadian Colonial	5 1/8	5	— 1/8	1,800	5 1/8	5	— 1/8	1,500	5 1/8	5	— 1/8	5	— 1/8	9,400
Fairchild Aviation	11 1/2	10 3/8	+ 1 1/8	1,600	11 1/2	11	— 1/2	1,300	11 1/2	10 3/4	+ 1 1/8	10 3/4	+ 1 1/8	1,400
Grumman Aircraft Eng	17 1/4	15 1/8	+ 1 1/8	600	17	16 1/2	— 1/2	1,300	17 1/4	16 1/2	— 1/2	16 1/2	— 1/2	1,000
Irving Air Chute	29 1/2	24 1/2	+ 3 1/2	23,300	29 1/4	26 1/8	— 3 1/8	9,900	28 1/4	27	— 1 1/4	27	— 1 1/4	7,200
Lockheed Aircraft	18	17 1/2	+ 1/2	1,600	18 1/2	18	— 1/2	1,300	18 1/2	18	— 1/2	18	— 1/2	2,300
Penn-Central Airlines	8 1/4	7 1/2	+ 1 1/2	3,600	8 3/8	8	— 3/8	1,300	8 1/4	8 1/4	— 1/8	8 1/4	— 1/8	2,700
Roosevelt Field	4	3 1/4	+ 1/4	7,300	3 7/8	3 1/2	— 1/2	1,500	3 3/4	3 1/2	— 1/4	3 1/2	— 1/4	400
Seversky Aircraft	4	3 1/4	+ 1/4	400	3 7/8	3 1/2	— 1/2	1,500	4 1/4	4	— 1/4	4	— 1/4	400
Waco Aircraft	4 1/4	4	+ 1/4	200	3 3/8	3 1/8	— 1/4	100	3 1/2	3 1/8	— 1/8	3 1/8	— 1/8	400
Western Air Express	3 3/8	3 1/2	+ 1/4	200	3 3/8	3 1/8	— 1/4	100	3 1/2	3 1/8	— 1/8	3 1/8	— 1/8	400

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recommend Lockheed."*
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Chicago and Southern



CONSISTENTLY *Successful and* **PROFITABLE!**

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